

NORTHERN
AND
ARCTIC INVERTEBRATES
IN THE
COLLECTION
OF THE
SWEDISH STATE MUSEUM
(RIKSMUSEUM)

III.

OPISTHOBRANCHIA AND PTEROPODA

BY

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WITH THREE PLATES

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UPPSALA & STOCKHOLM
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Introduction.

The present work has been prepared on the basis of the very complete collections of northern and arctic mollusca, which the Swedish State Museum has acquired during the process of time and which have hitherto been only partially dealt with by scientists. The geographical area from which they have been gathered comprises the following waters: the Baltic Sea, the Kattegatt, the Skagerrack and the North Sea, the Atlantic and the Arctic Oceans off the coast of Norway, the Kara and the White Seas, the Arctic Ocean off Siberia and to some extent the Behring Sea, the Coasts of Spitzbergen, Iceland and Greenland, and the northern parts of the Atlantic together with Davis Strait and Baffin Bay.

A survey of the expeditions which brought the collections home is given by Professor HJ. THÉEL in K. Sv. Vet.-Akad. Handl. Bd. 39, H. 1; that survey is here referred to when dates are annexed to the localities given.

In order to complete the fauna of that area those forms are also included, which are found within it but which are not represented in the Museum collections. All these latter are printed in brevier type for the sake of distinction. The specimens that I have myself seen, that is to say the collections in the State Museum and those in the Museums at Uppsala and Gothenburg, are put under the heading of »Habitat». The localities of »General Distribution» are quoted from several works; the works quoted from are arranged chronologically in an enclosed survey of literature.

In the first part of this paper there is given a systematic synopsis of the forms. This is intended to constitute a graphic representation of their reciprocal relationship, so far as this has been hitherto established, and to give a clue for the determination of forms met with. The system is worked out with the guidance of FISCHER's, BERGH's and PELSENEER's works on Opistobranchs.

To synonyms no very close study has been devoted, only the most essential ones have been mentioned.

The index contains all the names met with in the paper, arranged in alphabetical order, and, in addition, the generic names, under which the species are described.

The figures drawn in colours will undoubtedly be a help in the study of this paper. They belong to a collection, which LOVÉN had made for the purpose of prospective reproduction.¹ They were painted by the two celebrated artists, F. and W. v. WRIGHT, and serve to complete in certain respects LOVÉN's »Index Molluscorum Scandinaviæ», which has hitherto been almost the only source whence a knowledge was obtainable of the marine molluscan fauna found off the Swedish west-coast; to this work several figures also refer which LOVÉN has numbered himself. Only a few of the figures were followed by measurements stating the natural size; these are retained here as they appeared, and the omissions must be filled in from the statements of length in the systematic section of the present paper.

The figures could not be arranged in systematic order, for the exigencies of printing have necessitated the colour tone being considered in the first place.

The new specimens which are found in the collections are figured on Plate I. For want of space four figures also have been printed in the text. The descriptions of the new forms are brought together particularly in the end of the report.

Now there only remains for me to express my gratefulness to those, who have aided me in my labours, especially to Professor HJ. THÉEL, who has kindly placed the collections at my disposal, aided me by the loan of literature and with invaluable advice, and to Mr. G. LILJEVALL, who has drawn and put together the plates with his well-known ability.

¹ Compare the extract from a letter to Berzelius, cited by Professor THÉEL in »Sven Ludvig Lovén» (Lefnadsteckn. öfver K. Sv. Vet. Akad:s ledamöter Bd. 4 H. 3 sid. 48).

Opisthobranchia.

Heart with the auricle mostly behind the ventricle; respiratory organ a ctenidium, secondary branchiæ or none; nervous system, with a few exceptions, of the euthyneurous type; animal always hermaphrodite.

Synopsis of Families.

Subordo I Tectibranchia.

Right ctenidium usually present, more or less enclosed in a mantle-cavity; shell mostly present, external or internal, often rudimentary.

A. Bulloidea (Cephalaspidea): Head with the tentacles coalesced to a broad disc; parapodia more or less developed.

1. Shell external,

a. with operculum; spire elevated; columella with a strong fold; no parapodial lobes; radula $\infty.0.\infty$ *Fam. Actæonidæ.*

b. without operculum; spire mostly concealed; columella with no or only a slight fold.

+. Radula absent; no parapodial lobes; in the stomach 3 flat, oval cartilaginous plates with coarsely tuberculated inner faces; cephalic disc produced in two erected processes behind *Fam. Tornatinidæ.*

++. Radula present; cephalic disc without produced lobes; parapodia well developed (except in *Diaphana*).

α. Radula narrow, 1.1.1 or (2—5).1.1.1.(2—5); shell compact and inflexible, not covered by the parapodia; stomach-plates 3 calcareous, or none *Fam. Scaphandridæ.*

β. Radula broad, $\infty.1.\infty$; shell very thin and flexible; aperture with a posterior slit at the suture; parapodial lobes reflexed over the shell; stomach plates numerous, cartilaginous *Fam. Aceridæ.*

2. Shell internal, consisting of two or three whorls only; aperture large; body oblong; parapodial lobes more or less folded over the back; radula without lamina media *Fam. Philinidæ.*

- B. Aplysoidea (Anaspidea): No cephalic disc; tentacles and rhinophores well developed; parapodia very important.
Parapodia reflexed over the back; shell wholly or partly covered by the mantle
Fam. Aplysiidæ.
- C. Pleurobrancoidea (Notaspidea): The dorsum forming a shield-like plate, notæum, on or in which a shell is usually placed; no head-shield nor parapodia. Ctenidium inserted in the middle of the right side and stretched backwards.
1. Shell in the notæum, or wanting *Fam. Pleurobranchidæ.*
 2. Shell external, patella-shaped, with a nearly central apex
Fam. Umbraculidæ.

Subordo II Nudibranchia.

No ctenidia; back generally with symmetrical processes or »papillæ», mostly functioning as gills; no mantle-cavity; shell present only in earlier stages of evolution.

- A. Tritonoidea: Heart on the right side of the median line; male and female ductus genitalis with joint orifices; vagina with receptaculum seminis only; liver compact or divided in one posterior and two anterior parts with or without diverticles to the dorsal processes; no blood-gland near the central ganglia; mandibulæ present.
1. Papillæ containing no liver-processes and without respiratory function (HERDMAN 1890); body in transversal section quadrangular.
 - a. Rhinophores retractile within vaginæ; no oral tentacles; head with a semi-circular velum; papillæ ramified; mandibulæ in the anterior margin of the bulbus with processes; radula broad, $\infty . 1 . \infty$.
 - +. Velum with short digitiform processes or papillæ; vaginæ of the rhinophores everted at the top; the back with lateral appendages only
Fam. Tritoniidæ.
 - ++. Velum smooth; vaginæ of the rhinophores with the margin bilobed; the back with three series of processes
Fam. Athilidæ.
 - b. Rhinophores without vaginæ; oral tentacles small; head with produced lateral lobes united to the foot; papillæ small, sparse-set on the back; mandibulæ lateral without processes; radula narrow, 1. 1. 1
Fam. Gonicolididæ n. fam.
 2. Papillæ ramified without liver-processes and respiratory function (HERDMAN 1890); body slug-shaped; the vaginæ of the rhinophores with ramose marginal lobes; no oral tentacles; head-margin with branched processes; mandibulæ lateral, with processes; radula broad, $\infty . 1 . \infty$ *Fam. Dendronotidæ.*
- B. Doridoidea (Holohepatica): Heart in the median line; female ductus genitalis divided into two parts, each sometimes with an orifice of its own united with or separated from the male one; vagina with a spermatocyst in addition to the receptaculum seminis; liver undivided; a blood-gland near the central ganglia; mandibulæ usually absent; gills surrounding the dorsal anus (except in Doridoxa).

1. Gills absent; anus lateral on the right side *Fam. Doridoxidæ.*
 2. Gills surrounding the dorsal anus,
 - a. nearly always retractile; anterior tentacles usually present, digitiform or conical (Cryptobranchia) *Fam. Dorididæ.*
 - b. never retractile; tentacles lobe-shaped or replaced by a velum (Phanero-branchia).
 - +. Pharynx without ingluvies; mantle-margin prominent or not, mostly with cirri (Non Suctoria) *Fam. Polyceridæ.*
 - ++. Pharynx with an ingluvies at the upper side; mantle-margin generally prominent with or without cirri (Suctoria) *Fam. Goniodorididæ.*
- C. **Aeolidoidea (Cladohepatica):** Heart in the median line; male and female porus genitalis united to one orifice; vagina with a receptaculum seminis only; liver ramified; no blood-gland; anus usually lateral; mandibulæ present, lateral.
1. The back with papillæ, enclosing the liver-lobes.
 - a. Oral tentacles present; rhinophores without vaginæ, not retractile; papillæ usually claviform or cylindrical, mostly with enidocysts *Fam. Aeolididæ.*
 - b. No oral tentacles; rhinophores retractile within wide vaginæ; enidocysts absent; papillæ with rings of minute tubercles, in one series on each side; foot with the anterior angles rounded; margin of the mandibulæ smooth; anus lateral; penis unarmed *Fam. Dotonidæ.*
 2. The back without papillæ; tentacles = broad side-lobes of the anterior part of the head; back flattened or slightly convex; rhinophores with laminated clubs, retractile within short sheaths; radula $\infty.1.\infty$.
 - a. Gills lamelliform on the under-side of the prominent pallial margin *Fam. Pleurophyllidiidæ.*
 - b. Gills absent *Fam. Pleuroleuridæ.*
- D. **Elysoidea (Ascoglossa):** Heart and liver as in Aeolidoidea; male and female porus genitalis separated; vagina with both spermatocyst and receptaculum seminis; pharynx on the under-side with a sac, receiving the worn teeth: mandibulæ absent; ganglia 7, separated, connected by commissures.
1. The sides of the back with leaf-like or club-like processes (Cirrobranchia) *Fam. Hermæidæ.*
 2. The sides of the body forming broad lobes, containing the liver-branches (Pterobranchia) *Fam. Elysiidæ.*
 3. Body smooth, slug-like, without processes and lobes (Abranchia) *Fam. Limapontiidæ.*

Synopsis of Genera and Species.

Fam. Actæonidæ.

Actæon MONTFORT 1810.

Shell spirally striated; whorls 7–8; columella with a prominent fold; colour reddish or violet, often with 3 white spiral girdles. The cephalic disc reflexible over the anterior part of the shell. L. about 17 mm. *A. tornatilis* (LINNÉ 1766).

Shell pellucid, greenish and more shining than in the type, with 4 whorls and yellow spiral bands. L. 3,8 mm. var. *tenellus* LOVÉN 1846.

Fam. Tornatinidæ.

I. Shell cylindrical or conical; spire obtuse

Retusa BROWN.

II. Shell contracted at both ends; spire acuminate

Volvula ADAMS.

Retusa BROWN 1827.

Utriculus BROWN 1844.¹

I. Spire concealed.

A. Apex abruptly truncated.

1. The last whorl not tapering from the middle upwards; no spiral striæ; outer lip projecting beyond the apex; shell constricted in the middle; colour white. L. 4 mm. *R. truncatula* (BRUGUIÈRE 1792).

Shell more transparent, nearly cylindrical, not constricted in the middle. L. 5 mm. var. *pellucida* (BROWN 1827).

2. The last whorl tapering backwards, abruptly conical; spiral striæ indistinct; outer lip projecting beyond the apex and furnished with a sharp keel surrounding the sunken apex. L. 8 mm. *R. ovata* (JEFFREYS 1870) = *conulus* (DESHAYES) in G. O. SARS 1878.

B. Apex obtusely rounded.

I. Shell umbilicated and spirally striated; columella folded.

a. The breadth of the shell = the half length.

+. Apex deeply and widely perforated; colour white. L. 4 mm.

R. umbilicata (MONTAGU 1803).

++. Apical perforation smaller; columellar fold and striæ very distinct; colour white, epidermis brown. L. 2 mm.

R. strigella (LOVÉN 1846).

b. The breadth = $\frac{2}{3}$ of the length; shell with a few coarse spiral ridges and microscopical striæ. L. 2,9 mm. *R. substriata* (JEFFREYS 1877).

¹ The name Utriculus was employed by SCHUMACHER in 1817 for a Prosobranch.

2. Shell without umbilicus and striæ; columella not folded; apical perforation narrow; colour white. L. 3 mm. R. nitidula (LOVÉN 1846).
- II. Spire prominent.
- A. Outer lip not extended unto the apex, which is flattened and spirally twisted; whorls 4; no spiral sculpture; umbilicus minute or none.
1. Whorls slightly angulated at the suture; columella mostly without fold; shell transparent, whitish or light brown; spire low; breadth of the shell = $\frac{2}{3}$ of the length. L. 2,5 mm. R. pertenuis (MIGHELS 1839)
= semen (REEVE 1855).
Spire elevated; whorls step-like. L. 3,5 mm.
var. turrita (MÖLLER 1842).¹
2. Whorls rounded at the suture; columella with an obscure fold; shell opaque, white or creamy, its breadth = $\frac{3}{5}$ of the length. L. to 7 mm.
R. obtusa (MONTAGU 1803).²
- B. Outer lip as high as the apex; shell spirally striated.
1. Apex flattened; whorls 4, shell ovate (its breadth = $\frac{5}{8}$ of the length), white with a yellowish cuticula. L. 7—8 mm. R. Gouldi (COUTHOY 1839).
2. Apex slender and wart-like, shell cylindrical (its breadth = $\frac{1}{2}$ of the length), white and subpellucid. L. 3 mm. R. mamillata (PHILIPPI 1836).

Volvula A. ADAMS 1850.

Shell convoluted, sculptured with very fine spiral striæ towards the ends; colour white, transparent; columella a little thickened; aperture very narrow, wider at the lower end. L. about 3,5 mm. V. acuminata (BRUGUIÈRE 1792).

Fam. Scaphandridæ.

- I. Stomach with 3 calcareous plates; foot truncated or slightly bilobed behind; parapodia present; shell opaque, with the spire concealed.
- A. Radula 1.1.1; aperture of the shell much dilated below; spiral striæ punctured; animal with the cephalic disc produced behind in two lobes.
1. Vertex of the shell covered by a callus, imperforate; laterals of the radula long, arcuated; columella concave; animal not perfectly retractible into the shell
Scaphander MONTFORT.
2. Vertex of the shell perforated; laterals of the radula broad, triangular; columella forming a central pillar, slightly sinuous
Atys MONTFORT.
- B. Radula (2—5).1.1.1.(2—5), laterals claw-like; aperture of the shell usually slightly widened below; spiral striæ not punctured, often absent; cephalic disc truncated, without lobes; animal retractible into the shell; vertex not perforated
Cylichna LOVÉN.

¹ LECHE describes (1878) another var. *elongata* with the spire elevated.

² Whether *R. obtusa* is a distinct species or only a southern form of *R. pertenuis* is a doubtful point.

- II. Stomach without plates; foot forked behind, with small parapodia; shell thin, transparent, globose; spire concealed or prominent; animal retractile into the shell; radula 1.1.1, the laterals crossing the laminae mediae Diaphana BROWN.

Scaphander MONTFORT 1810.

- I. Spiral striae deeply impressed, in the bottom with fine punctures; outer lip in the middle almost straight, rounded above and, seen from the top, bowed in S-form with a wide concavity near the apex, which is sunken and surrounded by a keel. Cuticula yellowish. L. unto 28 mm. S. lignarius (LINNÉ 1766).
- II. Spiral punctures very distinct; outer lip slightly bowed, angled above and, seen from the top, convex up to the apical insertion; apex without keel, not sunken; shell in the middle broader, the aperture less dilated below. Cuticula yellow or brown. L. about 35 mm.
S. punctostriatus (MIGHELS 1841) = librarius LOVÉN 1846.

Atys MONTFORT 1810.

- The spiral striae less distinct in the middle of the shell; outer lip extended above the apex which is furnished with a groove-like perforation; columella with a strong fold; shell umbilicated. Colour yellowish, cuticula darker. L. up to 12 mm.
A. utriculus (BROCCHI 1814) = Bulla Cranchii LEACH 1847.

Cylichna LOVÉN 1846.

- I. The central teeth of the radula with the margin scarcely incised in the middle; the length of the shell $\bar{>}$ the double breadth; suture with a broad slit between the outer lip and the body-whorl.
- A. Radula 3.1.1.1.3; shell with parallel sides, cylindrical, its length nearly 3 times the breadth; columella equally bowed, without sinus near the lower end but with a broad fold; spiral striae microscopical. Cuticula dark-yellow. L. to 9 mm. C. cylindracea (PENNANT 1777).
- B. Radula 5.1.1.1.5; ends of the shell rounded; columella with a distinct sinus below; outer lip prominent over the apex; spiral striae fine but distinct; shell broadest in the middle, its length = twice the breadth; columella with a distinct fold; cuticula light yellow. L. 11 mm. C. alba (BROWN 1827). Shell cylindrical; columella with indistinct fold; apex broadly truncated; cuticula thick, brownish. L. 8 mm. var. corticata (MÖLLER 1842).
- II. The central teeth of the radula with the margin deeply incised in the middle; the length of the shell $<$ twice the breadth. Radula 2.1.1.1.2.¹
- A. Shell broadest below the middle; superior end a little narrower than the base; the striae equally close over the whole shell, not very deep; columella usually bent to the right, by which the columellar sinus grows more concave.
1. Outer lip much extended beyond the apex, angled above; superior end of the shell growing narrower from the middle to the apex; columellar mar-

¹ For the synonyms of the following species see LECHE 1878.

gin with a strong convexity. Striæ broad, straight, at regular distances from each other; colour mostly light yellowish. L. 10 mm.¹

C. *inseulpta* (TOTTEN 1835).

Shell thick, almost opaque

var. *valida* LECHE 1878.

2. Outer lip a little extended above, rounded; superior end of the shell rather broad; columellar margin with or without a very small convexity. Striæ linear, undulatory with irregular interspaces; colour reddish yellow or brown. L. 7 mm.

C. *Reinhardti* (MÖLLER 1842).

- B. Shell broadest above the middle; superior end very wide; the striæ more close-set towards the outer margin, deeply engraved; columellar margin usually bent to the left, whereby the sinus becomes less concave; colour whitish. L. 9 mm.

C. *seulpta* (REEVE 1855) = *propinqua* (M. SARS 1858).

Shell of uniform breadth, the length not quite 3 times the breadth, both ends distinctly truncated: the outer lip without slit at the suture, extended to the height of the apex, not beyond it; spiral sculpture very indistinct. Colour milky-white and glossy. Radula? L. 4 mm.

C. *discus* WATSON 1886.

Diaphana BROWN 1833.

Amphisphyra LOVÉN 1846.

- I. Apex not perforated, broadly flattened; outer lip a little inflexed above the middle.

A. Length > breadth; columella vertically descendent or bent to the left; aperture not extremely expanded.

1. Outer lip not extended beyond the apex; umbilicus narrow; spire depressed; whorls 3—5, hyaline, without sculpture. L. to 5 mm.

D. *hyalina* (TURTON 1834) = *debilis* (GOULD 1840).

Spire wart-like, prominent. L. 3 mm.

var. *spirata* n. n. = *debilis* (GOULD) in PILSBRY 1893.

2. Outer lip produced beyond the sunken apex; umbilicus rather wide; whorls 2—3 with very indistinct spiral keels. L. unto 4 mm. Shell hyaline with yellowish eutieula

D. *glacialis* n. sp.

Pl. 1 figs. 1—5.

- B. Length a little larger than breadth; columella bent to the right and the aperture obliquely expanded below; spire depressed; whorls 3—4, the penultimate projecting a little; umbilicus narrow. L. 6 mm. Shell hyaline

D. *expansa* (JEFFREYS 1864).

- II. Apex perforated, broadly rounded; outer lip produced above the apex.

A. Shell without sculpture; outer lip rounded at the suture.

1. Umbilicus distinct; outer lip flattened above the middle. L. 4 mm. Shell vitreous

D. *globosa* (LOVÉN 1846).

¹ The diagnosis made with guidance of the specimens from Kara Sea, determined by LECHE.

2. Umbilicus partially closed; outer lip strongly sinuous, much produced above.
 L. c. 2,5 mm. Shell horn-coloured *D. hiemalis* (COUTHOUY 1839).
 B. Shell pellucid with close, impressed spiral striæ; outer lip sharply angulated
 at the top, sinuous; aperture not dilated. L. 6 mm. Radula similar to that
 of a Philine, with denticulated laterals *D. densistriata* (LECHE 1878).

Fam. Aceridæ.

Acera MÜLLER 1776.

Stomach-plates 12—14; cephalic disc long, narrow; animal not perfectly retractile into the shell.

Shell with microscopical striæ; spire flattened, surrounded by a sharp keel; cuticula pale brown. Whorls 3—4. Colour of the animal brownish. L. 50 mm, animal; 14 mm, shell *A. bullata* MÜLLER 1776.

Pl. II figs. 1—3.

Fam. Philinidæ.

Philine ASCANIUS 1772.

Cephalic disc very large; parapodia erected, swollen; mantle covering the shell wholly and produced beyond it behind; shell vitreous or opaque.

I. Stomach-plates distinct, calcareous.

A. Radula without uncini, 1.0.1; shell broadly oval.

1. Spiral sculpture none; outer lip reaching up above the apex, and
a. arcuated above; shell subpellucid; aperture uniformly rounded below. L.
 45 mm, animal; 15—20 mm, shell

Ph. aperta (LINNÉ 1766) = *quadripartita* ASCANIUS 1772.

Pl. III fig. 1.

b. forming a right angle above; shell vitreous, aperture obliquely expanded. L. 3 mm, shell

Ph. vitrea M. SARS 1870 = *infortunata* PILSBRY 1895.

2. Shell with spiral sculpture.

a. Spiral striæ close, fine and undulating, outer lip depressed above, not extended beyond the apex.

+. Laterals of the radula serrated in the margin.

a. Shell elongated, much contracted above, broadest below the middle; last whorl only a little convex; suture terminating in a slit; sculpture microscopical. Head, without median furrow, > the mantle. L. 9—12 mm, shell *Ph. Ossian-Sarsi* FRIELE 1877.

β. Shell very broad, oval; the last whorl strongly convex; no slit at the suture. Apex and the superior lobe of the aperture obliquely truncated. Head-lobe = the mantle, white. L. 18 mm, animal; 7 mm, shell *Ph. finmarchica* M. SARS 1858.

Shell as in the following species var. *intermedia* KNIPOWITSCH 1901.

++. Laterals of the radula with smooth margin. Apex and the superior lobe of the aperture transversely truncated. Head-lobe < the mantle, white with light dots. L. 11 mm, shell Ph. *fragilis* G. O. SARS 1878.

b. Spiral striae consisting of confluent impressed punctures; outer lip uniformly arcuated and prominent above the apex. L. 2 mm, shell Ph. *cingulata* G. O. SARS 1878.

B. Radula with a rudimentary uncinus on each side, 1.1.0.1.1; shell extended in length, with catenarian spiral striae.

1. Aperture-margin not extended beyond the apex, rounded or forming nearly a right angle below. Outer lip not compressed at the top but strongly sinuous; the margin serrated below and at the top. Animal yellowish or greenish white, sometimes with black spots. L. 15 mm, animal; 8 mm, shell Ph. *scabra* (MÜLLER 1776).

Pl. I figs. 6—8; Pl. III fig. 2.

Outer lip compressed (slightly sinuous) at the top; the margin less serrated or smooth, rounded below var. *Lovéni* MALM 1853.¹

Pl. I fig. 9.

2. Aperture margin extended beyond the apex, uniformly rounded in front and serrated. Animal yellowish white, the parapodia with reddish brown spots. L. 10 mm, animal; 4 mm, shell Ph. *catena* (MONTAGU 1803).

II. Stomach-plates rudimentary, cartilaginous; radula with 2 uncini on each side, 2.1.0.1.2; spiral sculpture consisting of oval rings.

a. Outer lip not extended above the apex; aperture regularly oval, rounded below. Animal light yellow with reddish brown dots; head-lobe oval. L. 5 mm, animal; 2 mm, shell Ph. *punctata* (CLARK 1828).

b. Outer lip extended above the apex, angled and projecting outwards at the top; aperture nearly quadrangular, truncated below; whorls with a keel at the suture. L. 3 mm, shell

Ph. *angulata* JEFFREYS 1867.

III. Stomach-plates absent; radula with uncini, which are

A. strong, hamate.

1. on each side 1 (radula 1.1.0.1.1); shell smooth, elongated; outer lip acute-angled above, as high as the apex. Head-lobe oval. L. about 4 mm, animal; 1,8 mm, shell

Ph. *sinuata* STIMPSON 1850 = *nitida* JEFFREYS 1867.

2. on each side 2 (radula 2.1.0.1.2); shell with catenarian spiral striae.

a. Spire not prominent.

+. Shell rhomboidal, slightly contracted below the apex, which is narrow, of the same breadth as the superior lobe of the aperture. Head-lobe cut out behind. L. 16 mm, animal; 7 mm, shell

Ph. *quadrata* (WOOD 1839) = *scutulium* LOVÉN 1846.

++. Shell oval; apex broadly rounded. Head-lobe slightly incised behind in the middle. L. 5 mm, animal (contracted); 3,5 mm, shell

Ph. *polaris* AURIVILLIUS 1887.

¹ This variety, however, passes over into the type through a series of intermediate forms (see Pl. I figs 6—9).

- b.* Spire prominent; shell elongated; outer lip a little compressed above. Head-lobe deeply incised behind. L. 17 mm, animal; 7 mm, shell; uncini denticulated

Ph. lima (BROWN 1827) = lineolata (COUTHOUY 1839).

Uncini smooth; sculpture consisting of distinct points without connecting lines var. frigida KNIPOWITSCH 1896.

B. narrow, scarcely curved,

1. on each side 6 (radula 6.1.0.1.6); shell striated.

a. Shell latticed on the surface; outer lip scarcely compressed. Animal with the mantle incised behind; colour white, with opaque white spots. L. 17 mm, animal; 6 mm, shell Ph. pruinosa (CLARK 1828).

Pl. III fig. 3.

b. Shell with spiral sculpture only; outer lip highly compressed behind. L. 10 mm.

Ph. flexuosa M. SARS 1870.

2. on each side 2 (radula 2.1.0.1.2); shell smooth, very broad (like a Diaphana). Mantle incised behind. L. 2.5 mm, shell Ph. velutinoides G. O. SARS 1878 =? ventricosa (JEFFREYS 1867).

Fam. Aplysiidæ.

1. Parapodial lobes separated in front (subfam. Aplysiinæ). Rhinophores placed before the ends of the dorsal lobes; mantle open at the back; body smooth; radula $\infty.1.\infty$ Aplysia LINNÉ.
2. Parapodial lobes separated only by the genital groove (subfam. Dolabriferinæ). Rhinophores as in Aplysia; mantle closed, without dorsal opening; body mostly rough or warty; radula $\infty.1.\infty$ Dolabrifera GRAY.

Aplysia LINNÉ 1766.

Tethys LINNÉ 1758.¹

Rhinophores and tentacles cylindrical with a longitudinal furrow in front. Colour dark-reddish, brownish or greenish with white dots. Shell an ovate, concave plate of a pale yellowish colour. L. 70—150 mm, animal; 17 mm, shell

A. rosea RATHKE 1799 = punctata CUVIER 1803.

Pl. II figs. 4—7.

Dolabrifera GRAY 1847.

Body elevated; tentacles and rhinophores very low and widely expanded. Colour dark olive-brownish, the body-sides and the sole darkest, the sides of the back with reddish brown spots. Shell elongated, truncated in front, with a prominent spire; its colour pale yellowish. L. 25 mm, animal; 10.5 mm, shell

D. Holbölli BERGH 1872.

Fam. Pleurobranchidæ.

Pleurobranchis CUVIER 1804.

Radula $\infty.2.\infty$. Tentacles replaced by a velum.

Gill-plume pectinated with about 20 teeth on each side; rhinophores cylindrical,

¹ The name Tethys was applied by LINNÉ in 1766 to a Nudibranch.

divergent, with a furrow on the under side. Body gelatinous, yellow or reddish, with whitish spots. Shell internal, oval, flexible, with the spire over the side; whorls 2, very minute. L. about 30 mm, animal; 15 mm, shell

P. plumula (MONTAGU 1803) = *sideralis* LOVÉN 1846.

Fam. Umbraculidæ.

Tylodina RAFINESQUE 1819.

Head with a velum, terminating in tentacular lobes. Radula $\infty.1.\infty$.

Shell ovate, depressed-conic, obsoletely angulate-radiate, with two incomplete sinistral nuclear whorls at the recurved apex. Animal oblong, the head without rostrum, deeply slit in front into lanceolate lobes; rhinophores ear-shaped. Colour of the animal and epidermis of the shell purple. L. 10,7 mm, shell. (PILSBRY 1895).

T. Duebenii LOVÉN 1846.

The following forms, perhaps young specimens of *Philine*, may be added to the *Tectibranchia*.

Colpodaspis M. SARS 1870.

Head with a pair of tentacles; foot with expanded anterior lobes. Shell internal, globose-ovate, with the apex twisted, truncated; whorls 3. Radula 2.1.0.1.2.

L. of the shell, $1\frac{2}{3}$ mm. (SARS); L. of the animal 2,5 mm. (SARS) or $3\frac{1}{4}$ mm. (GARSTANG 1894).

C. pusilla M. SARS 1870.

Colobocephalus M. SARS 1870.

Head with tentacle-shaped side-lobes; foot dilated in front. Shell external, subauriform, very thin, with or without an indistinct epidermis; spire small; whorls 3; columella sinuous. Radula 2.1.0.1.2.

Shell with transversal costæ. L. 2,7 mm, animal; height of the shell 2 mm, breadth $2\frac{2}{3}$ mm.

C. costellatus M. SARS 1870.

Fam. Tritoniidæ.

Tritonia CUVIER 1802.

Ventriculus without dentition.

I. Velum incised in the middle, with small papillæ; radula with numerous laterals (subg. *Tritonia*).

A. Back slightly convex, warty; the bigger appendages (5—6 on each side) distinctly pedunculate, flexed inwards, the smaller ones prominent outwards; porus genitalis close by the margin of the back, half way between head and anus. Colour yellowish, brown or purplish; appendages light. Laterals of the radula smooth. L. 70—200 mm.

T. Hombergi CUVIER 1802 = *fimbriata* (VAHL 1806).

Pl. II fig. 18, Pl. III fig. 4

Laterals of the radula with margin-hooks. L. 25 mm.

var. *alba* ALDER & HANCOCK 1855.

- B. Similar to *T. Hombergi*, but porus genitalis farther backwards and somewhat below the back. Colour pale reddish brown. L. 48 mm.

T. psoloides AURIVILLIUS 1887.

II. Velum with fingered processes (subg. *Candiella* GRAY 1857).

- A. Velum incised in the middle, with 12 processes; back smooth, with 6—7 appendages on each side; the inner laterals of the radula denticulated. Colour (in alcohol) bluish gray; rhinophores yellow; foot, genital orifice and mouth yellowish. L. 50 mm. *T. ingolfiana* BERGH 1899.

- B. Velum not incised, with 6—8 fingered processes; back slightly warty, with 5—6 appendages on each side; teeth of the radula smooth. Colour yellowish brown, sides lighter, marbled with brown; foot white. L. 17 mm.

T. plebeia JOHNSTON 1838.

Pl. III fig. 5.

- C. Velum not incised, with 4 filaments; back slightly warty, with 5 appendages on each side. Colour white, the back with a longitudinal opaque white line on each side. L. 15 mm.

T. lineata ALDER & HANCOCK 1848.

Fam. Atthilidæ.

Atthila BERGH 1899.

Velum smooth at the margin; rhinophores retractile, the vagina bilobed above, the club lamelliform; anus and porus renalis lateral. Bulbus pharyngeus important. Penis inermis. Colour (in alcohol) pale reddish. L. 32 mm. *A. ingolfiana* BERGH 1899.

Fam. Goniæolididæ. n. fam.

Goniaolis M. SARS 1861.

Rhinophores > the oral tentacles; foot broad, rounded in front.

- I. Body without cutaneous lobes; rhinophores smooth; laterals of the radula smooth. Colour yellowish with a rosy median band at the sole. L. 12 mm. (*G. O.* SARS 1872) *G. typica* M. SARS 1861.
- II. Body with a cutaneous lobe in the anterior right angle of the back, and with a larger one behind the middle; rhinophores granulate; laterals of the radula finely denticulated. Colour yellowish white (in alcohol). L. 16 mm. *G. lobata* n. sp.
Pl. I figs. 10—13; text-fig. 1.

Fam. Dendronotidæ.

- I. Vaginæ of the rhinophores with simple digitiform processes; anterior head-margin with slightly ramose or simple papillæ; papillæ dorsales a little ramified. *Campaspe* BERGH.
- II. Vaginæ of the rhinophores and the head with ramose processes; papillæ dorsales highly branched. *Dendronotus* ALDER & HANCOCK.

Campaspe BERGH 1863.

- I. Dorsal papillæ 4 on each side; radula (4—5).1.(4—5), lam. lat. with 3—5 denticles, lam. med. with 10 ones on each side. Colour whitish, the intestines translucent. L. 3,8 mm. *C. pusilla* BERGH 1863.
- II. Dorsal papillæ 6 on each side; radula 9.1.9, lam. lat. with 5—17 denticles, lam. med. with 12—30 ones on each side. Colour white with reddish brown spots, or dirty brown, white-spotted on the sides. L. 12—25 mm. *C. major* BERGH 1886.

Dendronotus ALDER & HANCOCK 1845.

- I. Velum with 4—6 ramose processes; papillæ dorsales strongly branched; foot tapering behind. Colour white, marbled with red and brown. Laterals 9—11 with serrated margin. L. about 50 mm.

D. frondosus (ASCANIUS 1774) = *arborescens* (MÜLLER 1776).

Pl. III fig. 18; cf. Pl. II fig. 11.

Lam. med. and the outer laterals indistinctly serrated or smooth

var. *Dalli* BERGH 1879.

- II. Velum widely expanded with numerous small lobes and two larger ones on each side slightly branched. Colour pale reddish with white spots. Laterals 15 on each side, smooth or with indistinct denticles. L. up to 90 mm.

D. robustus VERRILL 1870 = *velifer* G. O. SARS 1878.

Fam. Doridoxidæ.**Doridoxa** BERGH 1899.

Radula $\infty . 1 . \infty$.

Colour (in alcohol) yellowish white, the back lighter. L. 12 mm.

D. ingolfiana BERGH 1899.

Fam. Dorididæ.

- I. Body nearly semiglobose; mantle-fold very small; papillæ conical; gills in 6—10 fascicles; lips and penis unarmed; tentacles large, a little flattened; radula $\infty . 1 . \infty$ (subfam. Bathydoridinae) Bathydoris BERGH.
- II. Body more or less depressed, oval; mantle-margin moderately or very broad; radula generally without lam. med.
- A. Lips unarmed; radula without lam. med., $\infty . 0 . \infty$.
1. Tentacles small, tubercle-shaped; the back coarsely granulate or tuberculate; foot without median furrow in front (subfam. Archidoridinae). Tentacles mostly with apical furrow; gills tripinnate, 8—14; penis unarmed; laterals of the radula hamate, smooth Archidoris BERGH.
 2. Tentacles digitiform, tuberculiform or conical; the back minutely granulate or villose; foot incised in front.
 - a. Branchial orifice with the margin smooth; the back with numerous close-set, small, almost linear papillæ; tentacles conical (subfam. Kentrodoridinae). Gills tripinnate, 12—15, narrow; penis armed with a stiletto; laterals of the radula hamate, smooth Jorinna BERGH.
 - b. Branchial orifice with the margin lobated or erenelated.
 - +. The back villose by conical papillæ; tentacles tuberculiform (subfam. Diaululinae). Gills bipinnate, 6; penis unarmed; laterals erected, staff-like, serrated in the outer margin Aldisa BERGH.
 - ++. The back minutely granulate; mantle very large; tentacles digitiform (subfam. Platydoridinae). Gills tripinnate; penis armed with small hooks; laterals hamate, smooth or denticulated Platydoris BERGH.

B. Lips armed with

1. small staves; tentacles digitiform; foot incised in front; radula $\infty.0.\infty$ (subfam. Discodoridinae). Gills simple-pinnate, 10, small; penis unarmed; the inner laterals solid, less hamate, the outer ones thinner with longer hooks, divided in the cusps Rostanga BERGH.
2. small hooks; tentacles broad, flattened, triangular; foot not incised in front; radula $\infty.1.\infty$ (subfam. Cadlinae). Gills tripinnate, 5, small; penis with series of hooks; laterals hamate, serrated on the outer margin Cadlina BERGH.

Bathydoris BERGH 1884.

Body (in alcohol) nearly gelatinous, on the back almost transparent. Rhinophores and tentacles brown; gills and outer genital organs orange-coloured; foot dark-crimson. L. 93 mm. B. ingolfiana BERGH 1899.

Archidoris BERGH 1878.

- I. Papillae wart-like, of varying size, irregularly distributed. Colour yellowish brown, marbled with greenish, reddish or brownish spots. L. up to 70 mm. A. tuberculata (CUVIER 1804).
Pl. II fig. 8; Pl. III fig. 6.
- II. Papillae wart-like, of varying size; the middle of the back with three longitudinal series of larger tubercles. Colour light reddish, towards the mantle-margin yellow. L. about 50 mm. A. nobilis (LOVÉN manuscr.).
Pl. I figs. 14—18.

Jormna BERGH 1876.

Papillae not wart-like, but of uniform breadth or broader towards the end, fine and densely set. Colour yellowish, sometimes with dark spots; rhinophores brown. L. to 40 mm. J. Johnstoni (ALDER & HANCOCK 1845^a).

Aldisa BERGH 1878.

Papillae conical. Colour whitish with close light dots; rhinophores and gills yellowish. Liver bluish showing through the skin. L. about 20 mm. A. zetlandica (ALDER & HANCOCK 1855).

Platydoris BERGH 1877.

Papillae of varying size, soft, wart-like; mantle pale yellowish, spotted with brown, the underside lemon-coloured with brown dots and anastomosing lines; rhinophores yellowish; gills 6—8, marbled with brown and white; laterals of the radula smooth. L. 42 mm. (in the collections) P. planata (ALDER & HANCOCK 1846^a).
Pl. I figs. 19—20.

Rostanga BERGH 1881.

Papillae small, close, square. Colour red with black dots; rhinophores yellowish, gills red. L. c. 12 mm. R. coccinea (FORBES 1843)

Cadlina BERGH 1878.

I. Back with wart-like papillae; radula 22.1.22. Colour milk-white with one series

of yellowish or white opaque spots on each side near the mantle-margin. L. c. 30 mm. *C. obvelata* (MÜLLER 1776) = *repanda* (ALDER & HANCOCK 1842).

Pl. III figs. 7—9.

II. Back smooth; radula 40.1.40. Colour white; rhinophores and gills yellow, liver brown, translucent; mantle with sulphureous spots near the margin. L. 15 mm. (in the collections)

C. glabra (FRIELE & HANSEN 1876)
= *Doris lævis* MÜLLER of LOVÉN 1846.

Fam. Polyceridæ.

I. Mantle with a high crista on each side of the median line and terminating with five lobes behind the gills; back with club-shaped papillæ; rhinophores with laminated club; oral tentacles indistinct; no mandibulæ; radula 20.0.20 Triopella G. O. SARS.

II. Mantle without cristæ.

A. Rhinophores with sheaths.

1. Club of the rhinophores smooth; sheaths with papillæ; mantle-margin indistinct; papillæ cylindrical with obtuse ends; radula 18.0.18; an unpaired jaw present Aegires LOVÉN.

2. Club of the rhinophores laminated; sheaths low, without papillæ.

a. Mantle-margin distinct; body papillated.

+ . Papillæ club-like, in the mantle-margin; no mandibulæ; oral tentacles cylindrical; radula 13.2.0.2.13 Triopa JOHNSTON.

+ + . Papillæ conical, also on the back; mandibulæ strong, triangular; oral tentacles = broad triangular lobes at the sides of the head; radula 6.2.1.2.6 Issa BERGH.

b. Mantle-margin indistinct; body smooth; gills with lateral appendages; mandibulæ present; radula without lam. med.; oral tentacles absent Thecacera FLEMING.

B. Rhinophores without sheaths, a little retractile, club laminated; mandibulæ present; oral tentacles replaced by small lobes; mantle-margin behind the gills with

1. many processes; mandibulæ without produced superior angles; radula 8.2.0.2.8 Palio GRAY.

2. one process at each side; mandibulæ with wing-shaped superior processes; radula 4.2.0.2.4 Polycera CUVIER.

Triopella G. O. SARS 1878.

Gills 3, minute, placed semicircularly before the anus; one row of papillæ outside each crista and one papilla behind each rhinophore; the cristæ united in front between the rhinophores. Colour whitish. L. 7 mm. *T. incisa* (M. SARS 1872).

Aegires LOVÉN 1844.

Gills 3, tripinnate, each with a long tuberos process by the side; velum with 10 papillæ; most of the papillæ of the back set in longitudinal rows. Colour red-

dish brown with dark-brown spots, which in the centre are greenish blue and shining.
L. 15 mm. *Ae. punctilucens* (d'ORBIGNY 1837).

Pl. II figs. 9—10.

Triopa JOHNSTON 1838.

Margin-processes in the front 8, granulated, the central ones smaller, on the sides 6 or 7, cylindrical and smoother; the middle of the back with tubercles: gills 3, tripinnate. Colour white, the dorsal tubercles and the tips of gills and processes orange or red. L. 18 mm. *T. clavigera* (MÜLLER 1776).

Pl. III fig. 10.

Issa BERGH 1880.

- I. The marginal papillæ short, about 25—28 on each side, the dorsal ones occur in about 4 longitudinal rows, their length = $\frac{1}{2}$ of the marginal papillæ; the posterior end of the foot (behind the mantle) very short. Colour white; rhinophores and gills sulphureous. L. 44 mm. *I. lacera* (ABILDGAARD 1806).
- II. The marginal papillæ numerous, about 50 on each side, rather long, reaching to the outer row of the dorsal papillæ; these set in about 6 rows and varying in size, mostly longer than the marginal ones; the posterior end of the foot nearly = $\frac{1}{6}$ of the body in length. Colour (in alcohol) yellowish white. L. to 48 mm.

I. villosa n. sp.

Pl. I fig. 21.

Thecacera FLEMING 1828.

Gills 5, surrounded by a ring of obtuse tubercles: sheaths of the rhinophores simple. Colour pale reddish yellow marbled with green: rhinophores and gills green, these latter white in the margins. Radula 5.2.0.2.5. L. 8 mm. *T. virescens* ALDER & HANCOCK 1855.

Palio GRAY 1857.

Head-margin with numerous (8—16) short lobes or conical papillæ; mantle-margin with many short processes at the gills: the whole body covered with tubercles. Colour greenish or yellowish: papillæ yellow. L. 20 mm.

P. Lessoni (d'ORBIGNY 1837) = *ocellata* (ALDER & HANCOCK 1842) = *pudica*, *modesta*, *plebeia* (LOVÉN 1846) = *dubia* (M. SARS 1829) = ? *Holbölli* (MÖLLER 1842).

Pl. II fig. 16.

Polycera CUVIER 1817.

Head-margin with 4 long, digitiform processes; mantle-margin with one process at each side of the gills; along the back and the sides 4—9 rows of tubercles. Colour white; tubercles and anterior papillæ yellow; gills, rhinophores and posterior processes with yellow ends; body sometimes with black or orange longitudinal bands. L. to 20 mm. *P. quadrilineata* (MÜLLER 1776) = *cornuta* (ABILDGAARD 1806).

Pl. III figs. 11—14.

Fam. Goniodorididæ.

- I. Mantle not covering the posterior part of the foot; back with two longitudinal cristæ between the rhinophores and the gills, and foot with a median one, united with the hind mantle-margin; papillæ conical, sparsely set; tentacles short, lobe-shaped; rhinophores laminated, their aperture smooth; radula 5.1.0.1.5
Doridunculus G. O. SARS.
- II. Mantle without cristæ; club of the rhinophores laminated.
- A. Without cirri.
1. Head covered by the mantle; tentacles replaced by a velum.
 - a. Rhinophorial apertures with small lobes; papillæ conical, close-set; lips armed with fine hooks; penis likewise armed; radula (3—5).1.0.1.(3—5)
Acanthodoris GRAY.
 - b. Rhinophorial apertures smooth; gills simply pinnate.
 - +. Papillæ big, club-like or broadly rounded; lips and penis unarmed; ingluvies stalked; gills 11 minute; radula with numerous teeth
Adalaria BERGH;
 - ++. Papillæ warty, globular or small, conical; lips with a narrow ring of papillæ and two processes in the lower part of the oral aperture. ingluvies shortly stalked; glans penis bowed, unarmed; radula (1—2).1.1.1.(1—2) or 1.1.0.1.1 Lamellidoris ALDER & HANCOCK.
 2. Head not covered by the mantle; tentacles = short side-lobes of the head; lips with fine hooks; gills simply pinnate; mantle ending behind the gills; ingluvies shortly stalked; penis armed with hooks; radula 1.1.0.1.1
Goniodoris FORBES.
- B. With cirri.
1. Cirri in the mantle-margin, which is prominent and continuous all around the back; gills simply pinnate; no oral tentacles; lips armed with spines; penis armed; radula 1.1.0.1.1
Idalia LEUCKART.
 2. Cirri 2 in front of each rhinophore; mantle-margin indistinct; gills 3, tripinnate, with 5 simple appendages outside; oral tentacles = side-lobes of the head; lips with rows of hooks; penis armed with spines; radula 1.1.1.1.1
Aneula LOVÉN.

Doridunculus G. O. SARS 1878.

- I. Gills 3, very minute, before the anus. Colour white; rhinophores and gills pale yellow. L. 7 mm.
D. echinulatus G. O. SARS 1878.
- II. Gills 5, minute, before the anus. Colour yellowish brown (in alcohol) L. 13 mm.
D. pentabanchus n. sp.
Pl. 1 figs. 22—23.

Acanthodoris GRAY 1850.

- I. Gills 7—9, tripinnate; rhinophorial orifice with a few distinct lobes; radula

3.1.0.1.3 (ALDER & HANCOCK 1851^a) or 5.1.0.1.5 (G. O. SARS 1878), with the laterals denticulated. Colour white or yellow. L. about 30 mm.

A. pilosa (MÜLLER 1776) = tomentosa (LOVÉN 1846).

P II figs. 13—15.

Colour brown or blackish

var. fusca (LOVÉN 1846).

Pl. II fig. 12.

II. Gills 15, simply pinnate: rhinophorial orifice slightly crenelated; papillæ close, nearly cylindrical; radula 3.1.1.1.3, the laterals smooth. Colour whitish or dirty yellow. L. about 30 mm. A. sibirica (AURIVILLIUS 1887).

Adalaria BERGH 1879.

I. Papillæ club-shaped; radula 10.1.0.1.10. Body semi-transparent, white or yellow. L. 14—25 mm. A. proxima (ALDER & HANCOCK 1845^a) = echinata (LOVÉN 1846).

II. Papillæ broadly rounded; radula 12.1.1.1.12 (SARS 1878).¹ Colour yellowish white. L. 20 mm. The biggest papillæ at the middle and along the sides of the back, smaller ones on the margins, interspersed with minute ones all over

A. Lovéni (ALDER & HANCOCK 1862)

= Doris muricata MÜLLER of LOVÉN 1846.

Lamellidoris ALDER & HANCOCK 1855.

I. Radula with lamina media: (1—2).1.1.1.(1—2).

A. Radula 1.1.1.1.1; gills 20—30; lam. lat. not denticulated, papillæ verruciform. Colour yellowish, marbled with brown on the back. L. 25 mm.

L. bilamellata (LINNÉ 1766).

Gills 16

var. liturata (MÖLLER 1842).

B. Radula 2.1.1.1.2; lam. lat. minutely serrated (denticles 15—20); gills 11; papillæ club-shaped or rounded.

1. The under side of the pallial margin smooth; papillæ uniform in size; colour yellowish. L. 10—13 mm. L. muricata (MÜLLER 1776).

2. The underside of the mantle furnished with close-set papillæ. Body semi-transparent. L. 10 mm. L. aspera (ALDER & HANCOCK 1842).

3. The underside of the pallial margin with a few papillæ and with γ -shaped lines; body transparent (the intestines showing through). Colour white. L. c. 10 mm. L. diaphana (ALDER & HANCOCK 1845^b).

II. Radula without lamina media: 1.1.0.1.1.

A. Laterals of the radula denticulated, uniformly arched and furnished with a strong hook near the apex.

1. Gills 9.

a. Apertures of the rhinophores lobated; papillæ obtuse, rather sparse. Colour pale yellow with distinct brown spots. L. 7 mm. L. sparsa (ALDER & HANCOCK 1846^b).

b. Apertures of the rhinophores smooth; papillæ short, conical, close-set. Colour brown. L. 9 mm. L. pusilla (ALDER & HANCOCK 1845^b).

¹ The lam. med. wanting according to ALDER & HANCOCK 1862; formula in FRIELE & HANSEN 1876: 12.0.12.

2. Gills 10; tubercles small, blunt. Mantle white, somewhat reddish, with brown spots. L. 12 mm. L. inconspicua (ALDER & HANCOCK 1845^a).

B. Laterals without hook near the apex, strongly curved, almost forming an angle in the middle; papillæ elongate-conical; foot narrow, extended beyond the mantle behind, with a dorsal keel. Colour transparent white, spotted with red; a yellow band along each side of the back. L. 6 mm.

L. luteocincta (M. SARS 1870).

»Corpore ovato-depressiusculo, albo, hepate tamen fusco pellucente: pallio tuberculato, minute cicatricoso; branchiis 6—7.» L. 10 mm. L. ? acutiuscula (MÖLLER 1842).¹

Goniodoris FORBES 1840.

I. Pallial margin smooth or slightly undulating, usually erect, incised in the middle behind. Along the middle and the sides of the back a tubercled fold. Gills 13. Sides of the body smooth. Colour white or yellowish with a rosy tinge; mantle with opaque white or yellow spots; rhinophores yellow; gills transparent. L. 14 mm.

G. nodosa (MONTAGU 1808).

Pl. III fig. 15.

II. Pallial margin furnished with spots with regular interspaces; gills 6(?) in an incomplete circle. Color white, mantle-margin, front of the head and the tips of the rhinophores and those of the gills yellowish green. L. 8 mm.

G. Danielsseni FRIELE & HANSEN 1876.

Idalia LEUCKART 1828.

I. The middle of the back with 4—5 cirri; lips with a ring of hooks; inner lam. lat. of the radula smooth (subg. Idalia).

Gills 18; mantle-margin with 2 long, tentacle-shaped cirri in the front, with short papillæ along the sides and with small lobes behind. Colour rosy to whitish, cirri orange, the rhinophores reddish towards the ends. L. unto 38 mm. L. elegans LEUCKART 1828.

II. The middle of the back without cirri; lips with a spiny lamina on each side; inner lam. lat. of the radula denticulated (subg. Idaliella BERGH 1881).

A. Gills 9, the posterior ones shortest; mantle-margin in the front with 4 long, filiform cirri, on the sides with 2 or 3 very short ones, and behind at the sides of the gills with a long bifid process; the upper $\frac{3}{4}$ of the rhinophores laminated; the base of the inner laterals much produced diagonally. Colour whitish with light dots. L. 9 mm. I. pulchella ALDER & HANCOCK 1855. Gills 10; lateral appendages of the mantle 6 on each side, simple, of equal length. Colour dark-brownish, lighter along the sides. L. 13 mm.

var. fusca n. n. = cirrigera PHILIPPI of LOVÉN 1846.

Pl. II fig. 19.

B. Gills 10, short, of equal length, the anterior and posterior ones bifid (the branchial rosette consequently with 12 points); mantle forming a very narrow area with 2—3 lateral appendages and a short posterior one; the rhinophores laminated from top to base; the inner laterals with rather broad and short base. Colour yellowish with brown and orange spots. L. c. 13 mm.

I. aspersa ALDER & HANCOCK 1845^a.

¹ MÖRCH includes (1877) this species in Lamellidoris; no later description being published about it, MÖLLER's diagnosis is given above.

Ancula LOVÉN 1846.

Rhinophores kneed, long, the upper half laminated. Colour white, transparent, ends of the appendages yellow. L. 18 mm. *A. cristata* (ALDER 1841).
Pl. III figs. 16—17.

Fam. Aeolididæ.

- I. Dorsal papillæ mostly with cnidocysts, simple, not ramose nor furnished with a cutaneous membrane; no crista between the rhinophores.
- A. Radula 0.1.0, the teeth horseshoe-shaped, usually not produced to a strong spine; papillæ in regular transversal rows; rhinophores simple, not laminated; penis unarmed.
1. Mandibular margin smooth; papillæ more or less compressed; teeth of the radula very broad, semilunar, with pectinated margin. Foot with lateral angles in front or with short triangular lobes (subfam. Aeolidinæ).
- a.* Teeth of the radula uniformly arched *Aeolis* CUVIER.
b. Teeth of the radula incised in the margin *Aeolidiella* BERGH.
2. Mandibular margin denticulated; papillæ subconical (subfam. Crateninæ).
- a.* Papillæ in densely set rows; anus lateral; foot more or less rounded in front; mandibular margin with one row of denticles.
- + . Teeth of the radula with marginal spines of varying size; foot broad, rounded in front; head broad *Cuthona* ALDER & HANCOCK.
++ . Teeth of the radula with the margin pectinated (spines of uniform size); foot shortly lobated in front; head of usual breadth *Cratena* BERGH.
- b.* Papillæ in clusters; foot with produced angles; anus latero-dorsal.
+ . Mandibular margin with many rows of denticles *Cuthonella* BERGH.
++ . Mandibular margin with one row of denticles *Hervia* BERGH.
- B. Radula 1.1.1 with the central teeth produced in a strong spine; papillæ in rows on regular obliquely-transverse ridges; rhinophores smooth; penis unarmed, furrow-shaped; female genital aperture with a pair of aculeated cushions (subfam. Cumanotinæ).
Mandibular margin with one row of denticles; teeth of the radula dentated; oral tentacles papilla-shaped; head much expanded laterally; anus latero-dorsal *Cumanotus* n. sp.
- C. Radula 1.1.1 or 0.1.0 with the central teeth produced in a spine; papillæ mostly in clusters, in longitudinal series or in irregular transverse rows; penis armed or not.
1. Rhinophores simple, rarely laminated.
- a.* Anus latero-dorsal; papillæ clavate or inflated; foot rounded or with produced anterior angles (subfam. Tergipedinæ).
+ . Radula 0.1.0.
α. Penis unarmed; no glandulæ ptyalinæ.
- *. Papillæ in one row on each side, inflated; foot rounded in front; oral tentacles present; mandibular margin denticulated *Tergipes* ALDER & HANCOCK.
**. Papillæ in many longitudinal rows, inflated; foot with tentacle-shaped produced anterior angles; teeth of the radula mitted to a serrated band; mandibular margin smooth; no cnidocysts *Forestia* TRINCHESI.

- ***. Papillæ in one row on each side or in clusters, club-shaped; foot rounded in front; mandibular margin smooth; oral tentacles replaced by flattened side-lobes of the head

Embletonia ALDER & HANCOCK.

- β. Penis armed with a straight or bowed spine; glandulæ ptyalinæ present; mandibular margin with one row of minute denticles; papillæ inflated Amphorina QUATREFAGES.

- ++: Radula 1.1.1, the laterals very broad, without denticles; margo mandibularis with one row of denticles; foot rounded in front.

- α. Penis armed with a spine; papillæ in one series at each side, club-like and tuberosus; rhinophores = the oral tentacles; no glandulæ ptyalinæ Capellinia TRINCHESE.

- β. Penis unarmed; papillæ inflated, smooth; rhinophores $\frac{1}{4}$ — $\frac{1}{3}$ > the oral tentacles; glandulæ ptyalinæ present; laterals of the radula very broad Galvina ALDER & HANCOCK.

- b. Anus lateral; papillæ usually narrow, linear; penis unarmed; foot with the anterior angles more or less produced. Radula 1.1.1 (subfam. Coryphellinæ).

- +. Body usually elongated; rhinophores long and thin; anus usually at or in front of the middle of the right side; dorsal margins usually not prominent; papillæ in clusters or in irregular transverse rows; foot with produced anterior angles; mandibular margins with rows of fine denticles Coryphella GRAY.

- ++. Body broad or elongated; rhinophores very strong; anus behind the middle of the right side; mantle-margin more or less prominent over the sides; the papillæ in irregular transverse rows; foot rounded or with produced angles; mandibular margins with rows of fine denticles (or smooth?) Chlamylla BERGH (incl. Gonireolis M. SARS of BERGH 1886 and 1899).

2. Rhinophores smooth or annulated with a bulbous swelling below the top; mandibular margin denticulated; radula 0.1.0; penis unarmed; foot usually with the angles much produced (subfam. Favorininæ) Favorinus GRAY.

3. Rhinophores with laminated clubs; radula 0.1.0; penis with spiny or glandular armament; mandibular margin denticulated; anterior angles of the foot much produced (subfam. Facelininæ) Facelina ALDER & HANCOCK.

II. Dorsal papillæ without cnidocysts.

- A. Papillæ with a descending cutaneous membrane; foot rounded in front; penis unarmed; radula 0.1.0; mandibular margin with one row of denticles (subfam. Fioninæ) Fiona HANCOCK & EMBLETON.

- B. Papillæ simple, very close, on the sides of the back; rhinophores laminated; radula mostly multiseriate; mandibular margin denticulated (subfam. Janinæ). A crista between the rhinophores; anus dorsal Antiopa ALDER & HANCOCK.

- C. Papillæ dichotomically branched, in one row on each side; foot rounded in front; penis unarmed; radula 1.1.1; mandibular margin coarsely denticulated (subfam. Heroïnæ) Hero LOVÉN.

Aeolis CUVIER 1802.*Aeolidia* CUVIER 1817.

The rhinophores < the oral tentacles, inserted close by each other. Papillæ in about 20 transverse rows, covering nearly the whole back. Colour varying, usually marbled with white, gray and violet; rhinophores and papillæ dark with white ends. L. to 80 mm. *Ae. papillosa* (LINNÉ 1766).

Aeolidiella BERGH 1874^a.

Papillæ in about 14 rows, containing 10—12 papillæ each; the rhinophores = the oral tentacles, united at the base. Colour pale reddish, papillæ greenish with brown and white spots. Teeth of the radula with about 30 denticles on each side. L. up to 45 mm. *Ae. glauca* (ALDER & HANCOCK 1845^b).

Cuthona ALDER & HANCOCK 1853.

I. Head as broad as the foot, with the sides produced.

A. Body depressed; papillæ clavate, in 8—10 close rows. Colour yellow or brown; papillæ rosy, brown-spotted. Radula with 69 plates; the teeth elongated, with a short middle-spine and 5—8 denticles on each side. L. 10 mm.

C. nana (ALDER & HANCOCK 1842).

Pl. II fig. 20.

B. Body tapering backwards; gills in numerous rows, each containing about 8—9. Colour light yellow, at the posterior of the back rosy; papillæ with yellowish brown liver-processes and white tips. Radula with 18 plates; the teeth produced, with a long central spine and about 8 small denticles on each side. L. 12 mm.

C. Peachi (ALDER & HANCOCK 1848).

II. Sides of the head not produced; body slender; gills linear in 10—11 close rows. Colour yellowish white, papillæ purple, their tips orange with a white ring, rhinophores rosy, oral tentacles white. Radula with 80 plates; the teeth arch-shaped with 3 marginal denticles on each side. L. 15 mm.

C. aurantiaca (ALDER & HANCOCK 1842).

Cratena BERGH 1864.

I. The rows containing at most 5 papillæ.

A. Oral tentacles < the rhinophores.

1. Papillæ cylindrical in 6—8 rows of 3—4 each; foot with the anterior angles obtuse. Colour yellowish with opaque white dots, rhinophores yellow, spotted with white and with a red ring in the middle; papillæ yellowish brown with light tips and with bands of olive-coloured granulate dots; radula with 57 plates, teeth with 6 denticles on each side. L. 10 mm.

C. olivacea (ALDER & HANCOCK 1842).

2. Papillæ subconical in 9—10 rows, 5 in each row; the anterior angles of the foot a little produced. Colour yellowish white, the rhinophores with white ends; papillæ violet, granulate in the middle, bluish outwardly, their

tips whitish. Radula with 29 plates; teeth with 5 denticles on each side.
L. 10 mm. *C. concinna* (ALDER & HANCOCK 1843).

Pl. III fig. 22.

B. Oral tentacles = the rhinophores: papillæ linear in 9—10 rows, the 4 first more close-set than the rest; the anterior angles of the foot a little produced. Colour white, tinged with green, papillæ green with white spots and tips. Radula with 36 plates, the tooth-margin with 5—6 denticles on each side.
L. 10 mm. *C. viridis* (FORBES 1840).

Pl. III fig. 20.

C. Oral tentacles > the rhinophores; anterior angles of the foot produced; papillæ in 10—12 rows of 4—5 each, cylindrical. Body orange, gills of the same colour or brownish and covered with opaque white dots. Radula?
L. 9 mm. *C. angulata* (ALDER & HANCOCK 1844^a)

= *Aeolis obtusalis* ALDER & HANCOCK of LOVÉN 1846.

Pl. III fig. 19.

II. The rows containing up to 8—11 papillæ.

A. Rows 13, the midmost with the longest papillæ, 8—10 in number. Colour (in alcohol) dirty yellowish. papillæ with a whitish tinge. Radula of many plates, teeth with 6—7 denticles on each side. L. 9 mm.

C. Olrikii (Mörch 1857).

B. Rows 11, the foremost with 9—11, the hindmost with fewer papillæ; foot rather broad. Colour (in alcohol) reddish or pale yellow. Radula with 23—31 plates, the teeth with 9—11 denticles on each side. L. 5—8 mm.

C. hirsuta BERGH 1860.

Cuthonella BERGH 1884.

I. Papillæ conical, firmly attached to the body, in 4 groups on each side; each group consisting of numerous transverse rows with 2—4, sometimes 5—6 papillæ. The wrinkled oral tentacles < the rhinophores. »Colour dirty yellow; papillæ light brownish gray, yellowish at the tip» (in alcohol). Teeth of the radula with 10—12 denticles on each side. L. 25 mm.

C. abyssicola BERGH 1884.

II. Papillæ subcylindrical in 30—37 rows with 3—4 in each; oral tentacles < the rhinophores. Colour (in alcohol) reddish brown, papillæ compact, dark, rusty brown with lighter tips; the under surface of the foot white with a light tinge of red. Teeth of the radula with 8—10 denticles on each side. L. 26 mm.

C. ferruginea FRIELE 1902.

III. Papillæ conical in about 20 close rows with 3—5 each; oral tentacles only a little < the rhinophores. Colour (in alcohol) dirty white, papillæ dark-blue or blackish, yellow at the top. Teeth of the radula with 7—9 denticles on each side. L. 16 mm.

C. Berghi FRIELE 1902.

Hervia BERGH 1874.

Rhinophores a little > the oral tentacles; head rather broad; papillæ in clusters, the first with 6 rows, the 2nd with 5, the 3rd with 3; in each row at most 8—10 papillæ. Colour (in alcohol) dirty yellowish. Radula with 21 plates, teeth with a strong central spine and 6—7 smaller denticles on each side. L. 10 mm.

H. modesta BERGH 1874.

Cumanotus n. gen.

Rhinophores filiform, united at the base; oral tentacles very small, connected by a low cutaneous fold across the broad head; papillæ in about 12 or 13 rows on each side, the first inserted in front of the rhinophores, the largest containing 8—9 papillæ; anus latero-dorsal before the 7th row. Colour (in alcohol) whitish. L. 10—13 mm.

C. laticeps n. sp.

Text-figs. 2—4.

Tergipes CUVIER 1817.

Rhinophores c. 3 times as long as the oral tentacles; papillæ thicker towards the ends, 4 on each side, the two front ones opposite each other, the back ones alternating; foot very narrow. Colour white with a greenish middle-line; rhinophores red at the base; papillæ olive-coloured, white towards the ends, red at the tips. Radula with 22 teeth, the teeth with a strong central spine and 6 denticles on each side. L. 8 mm.

T. despectus (JOHNSTON 1835).

Forestia TRINCHESE 1881.

Head drawn together behind; rhinophores a little < the oral tentacles; papillæ in 9 clusters on each side, 3 in the 6 anterior clusters, 2 in the 3 posterior ones, stretched, conical. Colour of the head and of the foot transparent white, back yellowish green with a white median line; papillæ light yellow. L. 15 mm.

F. albicans (FRIELE & HANSEN 1876).

Embletonia ALDER & HANCOCK 1851^a.

I. Head-lobe semicircular with the sides a little produced; gills in 5 clusters on each side, the 2 anterior with 3, the 3rd with 4, the posterior ones with 2 papillæ resp.; tentacles close by each other. Colour yellow or reddish, on the head and the anterior part of the back with brown to dark-violet, often confluent spots. Teeth of the radula with a slightly prominent central spine and 6—7 close-set denticles on each side. L. 7 mm.

E. pallida ALDER & HANCOCK 1855.

II. Head-lobe rounded; gills 5—6 in a single series along each side; tentacles widely separated. Colour reddish with white spots, gills orange-red, white-spotted. Teeth of the radula as in the preceding species. L. about 4 mm.

E. pulchra (ALDER & HANCOCK 1844^b).

Amphorina QUATREFAGES 1844.

Body yellowish, head whitish, liver-processes brown, papillæ with yellow rings, white-tipped; rhinophores as long as the oral tentacles; papillæ in 6 clusters with 2—3 each; anal papilla below the 4th cluster; foot rounded in front. L. 30 mm.

A. Alberti QUATREFAGES 1844.

Capellinia TRINCHESE 1874.

Body elongated; rhinophores and oral tentacles of equal length; papillæ in 6—7 clusters of 2—3 each, the first papillæ longest; each papilla with 2—3 circular swellings caused by the tuberos liver-process. Colour variegated white and brown; the papillæ grayish, slightly spotted with brown, without bands; liver-processes brown. L. 8 mm.

C? fustifera (LOVÉN 1846).

Pl. III fig. 23.

Galvina ALDER & HANCOCK 1855.

I. Dorsal papillæ in at most 11 rows.

A. Papillæ with a ring near the tips, but without bands.

1. in 7—8 rows of 5—6 each, ovate, tapering. Colour white with scattered reddish yellow and opaque white spots, also on the papillæ; rhinophores and tentacles with red bands; near the tops of the papillæ usually a minute orange ring; radula with 4 denticles on each side of the central spine; laterals with a small spine by the base. L. 12 mm.

G. picta (ALDER & HANCOCK 1842).

2. in 9—10 rows of 3—4 each, ovate-oblong. Colour yellowish white or purplish, spotted with yellow; papillæ, rhinophores and tentacles orange below the white tips; central teeth of the radula with 4—5 denticles, lateral spines broad. L. 10 mm.

G. Farrani (ALDER & HANCOCK 1844^a).

B. Papillæ with 2—3 greenishbrown rings.

1. Papillæ in 5—6 rows of 1—3 each, club-shaped with a broad conical point. Colour yellowish white, marbled with green or brown; papillæ with 2—3 brown or olive-coloured bands, at the ends with a white ring and sometimes a red ring at the tip; radula with 40 rows; 4 denticles on each side of the central teeth; laterals with a small basal process. L. to 20 mm.

G. exigua (ALDER & HANCOCK 1848)
= *Tergipes lacinuatus* GMELIN of LOVÉN 1846.

Pl. III fig. 21.

2. Papillæ in 8—9 rows with 3—5 each, elongated. Colour white, marbled with olive-brown; the rhinophores and the tentacles with one, the papillæ with 3 orange-brown bands. L. 10 mm. Radula ?

G. cingulata (ALDER & HANCOCK 1842).

C. Papillæ without rings and bands,

1. in 7—8 rows of 3—5 each, long and thick. Colour white or light yellowish, sometimes with minute brown spots at the back; papillæ yellow, white at the tips. Radula with 35 rows; the central teeth with 4 denticles at each side. L. 10 mm. G. flavescens FRIELE & HANSEN 1876.
2. in 6 rows of 2—3 papillæ each. Body yellow with reddish brown dots all over; papillæ orange at the base, yellowish in the upper part and with white dots at the tips. Radula with 35 rows; the central teeth with 4—5 denticles on each side. L. 5—8 mm.

G. rupium (MÖLLER 1842).

- II. Dorsal papillæ in 13—14 rows of 3—5 each, elliptical. Colour pale yellow; papillæ violet in the central line, near the tips orange-circled. Central teeth of the radula with 4 denticles; the lateral spines much produced. L. 25 mm.

G. tricolor (FORBES 1838).

Pl. II fig. 17.

Coryphella GRAY 1850.

- I. Papillæ in clusters; anterior angles of the foot narrowly produced; body tapering behind.

A. Rhinophores = the oral tentacles.

1. Radula with 13—20 rows; lam. med. with 5—7 denticles on each side, lam. lat. with 12—14 ones and with the apex curved outwards; papillæ in 6—7 clusters with 6—7, 4, 2—3 rows resp., the largest ones of 4 papillæ; rhinophores slightly corrugated. Colour white, branchiæ rose-coloured with a white ring near the apex. L. to 25 mm.

C. rufibranchialis (JOHNSTON 1832).

2. Radula with 26—27 rows; lam. med. with 8 denticles on each side, lam. lat. smooth; papillæ in 5—6 clusters with 4, 3, 2, 1 rows; 15—17 papillæ in each of the foremost clusters, which unite behind the rhinophores. Colour white, transparent, papillæ rose-coloured with white ends. L. 16 mm.

C. pellucida (ALDER & HANCOCK 1843).

B. Rhinophores < the oral tentacles.

1. Radula with 13—20 rows.

a. Radula as in *C. rufibranchialis* but the apices of the lam. lat. curved inwards; papillæ in 4—5 clusters, the first of 16—18 gills; rhinophores somewhat corrugated. Colour transparent white, with 3 longitudinal opaque white lines; papillæ rose-coloured, at the tops white-ringed; a white line runs along the rhinophores, the tentacles, the branchiæ, the back and each side. L. 25 mm. *C. lineata* (LOVÉN 1846).

Pl. III fig. 26.

b. Radula with the lam. med. at each side with 4—5 denticles, the lam. lat. with 8—10 ones; papillæ in 4 clusters, with 12—14 papillæ in the front, 10 in the 2nd, and fewer in the back clusters; rhinophores smooth. Colour transparent white, at the back yellowish green; papillæ orange-coloured, with a white ring below the tips. L. 14 mm.

C. gracilis (ALDER & HANCOCK 1844^a).

2. Radula with 26—27 rows; lam. lat. with 6 denticles, lam. med. with 5 ones on each side; rhinophores smooth; papillæ in 5—6 clusters with 4, 3, 2, 1 rows resp., of 2—3 papillæ each. Colour violet, gills orange-red, with white tips; rhinophores and oral tentacles violet with white ends. L. 8,5 mm.

C. Landsburgi (ALDER & HANCOCK 1846^b).

C. Rhinophores > the oral tentacles; radula with 15—27 rows; lam. lat. with 12—13 denticles, lam. med. with 5—7 ones on each side; rhinophores slightly wrinkled; papillæ in clusters and rows (of these about 20—30 on each side), each containing 2—3 papillæ. Colour (in alcohol) light yellowish brown, on the back towards the end with dense white spots; papillæ with white tips. L. 9—18 mm.

C. bostoniensis BERGH 1864.

II. Papillæ in irregular transverse rows; body broad; anterior angles of the foot only a little produced.

A. Laterals of the radula serrated on the margin.

1. Anus in front of the middle of the right side; radula with 20 rows; lam. med. with 6—9 denticles on each side, lam. lat. with 8—9 ones; papillæ in close rows with 4—6 each, subcylindrical, transparent; body (in alcohol) semitransparent. L. 16—24 mm.

C. Sarsi FRIELE 1902.

2. Anus in or behind the middle of the right side.

a. Radula with 10—12 denticles on each side of the lam. med. and 9—13 (SARS) or 13—26 ones (BERGH) in the lam. lat. Body broad; head expanded at the sides, as broad as the anterior part of the body; rhinophores a little less than the oral tentacles; gills very short, elliptical. Body, rhinophores and tentacles pale reddish. L. 13—29 mm.

C. salmonacea (COUTHOUY 1839).

b. Lam. med. of the radula with 5 denticles on each side; lam. lat. with 6 ones; body slender, tapering towards the end, broader than the head;

rhinophores distinctly less than the oral tentacles. Colour white, gills rusty brown, with white ends. L. 18 mm.

C. verrucosa (M. Sars 1829).

B. Laterals of the radula smooth; lam. med. with 6—9 denticles on each side; rhinophores slightly wrinkled; papillæ in at most 50 rows with 8—11 each; margin of the back prominent over the sides; anus behind the middle of the right side; rhinophores much larger than the oral tentacles. Colour yellowish white with a white line on the tail; tentacles reddish; gills reddish brown, their tips white-spotted, sometimes with rings. L. to 33 mm.

C. Stimpsoni VERRILL 1880.

The lam. med. without denticles

var. *lævidens* KNIPOWITSCH 1902.

Chlamylla BERGH 1886.

I. Teeth of the radula very indistinctly denticulated, the median ones only with a strong spine at each side; back with wing-like projecting margins; foot rounded in front; head not expanded at the sides. Radula with 17 rows. Colour (in alcohol) yellowish; mantle-margin gray; papillæ with white tips. L. 40 mm.

C. borealis BERGH 1886.

II. Teeth of the radula, at least the median ones, strongly denticulated; head expanded at the sides.

A. Oral tentacles < the rhinophores; foot with the anterior angles slightly projecting. Radula with 13—17 denticles in the lateral teeth and with 8—9 or 13—15 at each side of the median ones. Colour (in alcohol) yellowish. L. 23 mm.

C. typica (BERGH 1886).

B. Oral tentacles = the rhinophores.

1. Body without fold at the right side; mantle-margin rather prominent; foot with produced angles; lateral teeth smooth. Colour (in alcohol) yellowish. L. 27 mm.

C. intermedia (BERGH 1899).

2. Body with a cutaneous longitudinal fold in front of the right side; foot rounded; lateral teeth finely denticulated. Colour (in alcohol) yellowish. L. 55 mm.

C. atypica (BERGH 1899).

Favorinus GRAY 1850.

I. Papillæ in 5—6 clusters, which are nearly contiguous across the back, the 2 first ones of 2, the rest of 1 row, each containing 6—7 papillæ. Colour white, rhinophores brown up to the bulbus, gills white with yellow liver-processes and an olive-green ring near the apex. Teeth of the radula with a single central spine, no denticles. L. 12—25 mm.

F. albus (ALDER & HANCOCK 1844^a).

Pl. III figs. 24—25.

II. Papillæ in 4—6 separated clusters, in the first one 2 rows of 3 papillæ, in the 2nd the same and in the 3rd 1 row with 3 papillæ; the rhinophores strongly annulated. Colour transparent white with opaque white, sometimes yellow, spots, the rhinophores brown-spotted or blackish, white-tipped. Radula with 6 denticles on each side of the teeth. L. 3,5 mm. (BERGH 1878)

F. branchialis (MÜLLER 1806).

Facelina ALDER & HANCOCK 1855.

- I. Rhinophores with 20—30 small rings of uniform size; papillæ nearly cylindrical, covering the whole back in 15—18 rows, of which 7 in the first, 5 in the 2nd cluster; on each side 4—6 clusters. Colour pale reddish; rhinophores yellow; liver-processes yellowish red to brown, near their end a triangular white spot and above it the white enidocyst. Teeth of the radula with 9 denticles on each side. L. to 35 mm. F. Drummondi (THOMPSON 1843).
Pl. III fig. 27.
- II. Rhinophores with strong laminae all around.
- A. Rhinophores with 7—8 wide rings alternating with smaller ones: gills in 6—7 clusters, cylindrical; the foremost groups, with 20—30 each, united behind the rhinophores. Colour white or reddish; papillæ red with blue lines and white tips. Teeth with 7—8 denticles on each side. L. 25 mm. F. coronata (FORBES 1839).
- B. Gills in 4 clusters, thin and filiform, sometimes nearly half as long as the body. Colour pale rosy, gills light yellowish brown, the rhinophores darker, the oral tentacles rosy; all the processes with white tips. Teeth with 7 denticles on each side. L. 12 mm. F. auriculata (MÜLLER 1806).

Fiona ALDER & HANCOCK 1851^a.

Papillæ linear-conical, irregularly scattered over the sides of the back; oral tentacles linear, = the smooth rhinophores. Colour pale yellowish with a brilliant metallic lustre; papillæ brown with bluish white tips, their membrane reddish. Teeth of the radula with 6—7 denticles on the sides of the central spine. L. about 60 mm. F. marina (FORSKÅL 1775) = nobilis ALDER & HANCOCK 1851^a.

Antiopa ALDER & HANCOCK 1848.

Janus VERANY 1844.¹

Papillæ numerous, inflated, very close-set at the sides of the body; rhinophores obliquely laminated, united by a crest at the base; oral tentacles very short, digitiform; head narrow. Body yellowish, transparent, papillæ of the same colour, liver-processes brown, at the tip forked, apices of the gills bluish. Radula 40.1.40. L. about 30 mm. A. cristata (DELLE CHIAJE 1841).

Hero LOVÉN 1855.

Cloelia LOVÉN 1844.²

Papillæ 7 on each side, the first before the rhinophores, dichotomically branched; in front of the head a distinct velum, concave in the middle. Colour yellowish with diffuse white dots, a white median line on the back and one at each side; papillæ yellow. L. 17 mm.

H. formosa (LOVÉN 1844) = Cloelia trilineata M. SARS 1850.

Pl. III figs. 30—32.

¹ The name Janus was employed by STEVENS in 1835 for an Hymenopterous insect.

² The name Cloelia was employed by FITZINGER in 1826 for a snake.

Fam. Dotonidæ.

Doto OKEN 1815.

Radula 0.1.0.

- I. Rhinophores thin, filiform, smooth, their sheaths with expanded margin; papillæ stalked.
- A. Papillæ 5—7 on each side, with 4—6 whorls of pointed tubercles; velum abruptly truncated. Colour yellowish with red spots, the points of the papillar tubercles crimson. Teeth denticulated. L. about 12 mm.
D. coronata (GMELIN 1783).
Pl. II figs. 23—24.
- B. Papillæ 6—7 on each side, thick, with 7—9 whorls of blunt papillæ or lobes; velum rounded in front and at the sides. Colour yellowish brown or olive-tinged; rhinophores brown with white tips; papillæ yellowish or reddish brown, finely white-punctured. Teeth of the radula smooth or subdenticulated. L. 25 mm.
D. fragilis (FORBES 1838).
Pl. III figs. 33—34.
- II. Rhinophores very thick, short and distinctly annulated, with short, non-expanded sheaths; papillæ 4—6 on each side, not stalked, with 3 whorls of tubercles; velum semilunar, rounded. Colour yellowish brown, the papillæ white-spotted. L. 5—6 mm.
D. crassicornis M. SARS 1870.

Fam. Pleurophyllidiidæ.

Pleurophyllidia MECKEL 1816.

Diphyllidia CUVIER 1817.

Radula with the lam. med. denticulated at the sides of the strong central spine; lam. lat. serrated. Colour reddish brown with white longitudinal raised lines on the back. L. to 47 mm.

P. Lovéni BERGH 1860 = Diphyllidia lineata OTTO of LOVÉN 1844.

Pl. II figs. 21—22.

Fam. Pleuroleuridæ.

Pleuroleura BERGH 1874^b.

Laterals of the radula smooth. Colour (in alcohol) yellowish gray with light spots on the back. L. to 23 mm. (in the collections) P. Walteri KRAUSE 1892.

Fam. Hermæidæ.

- I. Body slender, tapering towards the end; no oral tentacles; gills on the sides of the body; anus in the fore part of the back.

- A. Gills oblong; rhinophores cylindrical, with a longitudinal furrow; radula 0.1.0 with 40—50 teeth
Hermæa LOVÉN.
- B. Gills inflated; rhinophores simple, conical; radula 0.1.0 with 15—21 teeth
Stiliger EHRENBURG.
- II. Body broad, ovate; no rhinophores nor oral tentacles; papillæ in transverse rows on the sides of the back; anus dorsal, placed far back; radula 0.1.0 with 16—17 teeth
Alderia ALLMAN.

Hermæa LOVÉN 1844.

- I. The branchiæ broadly oblong, of differing size. The tips of the rhinophores with a short lobe behind (the apex seems to be forked). Body white with red lines, branchiæ with red liver-processes. L. 24 mm. H. bifida (MONTAGU 1815).
Pl. III fig. 29.
- II. The branchiæ nearly linear, set in 8 rows. The tips of the rhinophores rounded. Colour brownish green with branched greenish lines; branchiæ of the same colour. L. 8—10 mm. H. dendritica (ALDER & HANCOCK 1843)
= venosa LOVÉN 1844.
Pl. III fig. 28.

Stiliger EHRENBURG 1831.

Papillæ 16—20 on each side, the largest innermost; rhinophores pointed, as long as the anterior papillæ; foot with projecting angles, narrowly produced behind. Colour gray or blackish, marbled with white; tail reddish white; rhinophores grayish; at each side of the neck a dark line and inside them a light one with the eyes on it. Close by the anus a dark line curved backwards (due to the translucent salivary gland). L. 7 mm.

S. Mariæ (MEYER & MÖBIUS 1865) =? Tergipes bullifer LOVÉN 1846.¹

Alderia ALLMAN 1844.

Head short with obtuse side-lobes. Processes in 6—7 rows, cylindrical with rounded apex, longer towards the hinder end of the body. Foot very broad with the margins deflected upwards. Colour yellowish or greenish, marbled with white. L. 10 mm. A. modesta (LOVÉN 1844).

Pl. II fig. 25.

Fam. Elysiidæ.

Elysia RISSO 1812.

Radula 0.1.0 with 40—50 teeth; anus dorsal.

Colour brownish or blackish to olive-green with shining red, blue and green

¹ Judging from specimens determined by LOVÉN and from a picture of an undefined Nudibranch, which seems to correspond to LOVÉN's diagnosis of Tergipes bullifer, this species may be identical with S. Mariæ.

dots; rhinophores dark; the margins of the side-lobes whitish; the eyes surrounded by light compartments. L. to 33 mm. Teeth of the radula pointed

E. viridis (MONTAGU 1804).

Pl. II figs. 26—27.

The upper side of the parapodia light brownish with a grayish tinge and white spots. L. 20 mm.
Radula with 56 teeth: their cusps rounded (BERGH 1872) var. *minuta* M. Sars 1835.

Fam. Limapontiidæ.

I. Sides of the head concave, surrounded by a keel; no tentacles nor rhinophores; body smooth, the middle of the back strongly convex; anus dorsal; radula 0.1.0 with 16—18 teeth
Limapontia JOHNSTON.

II. Head broad with flattened side-lobes instead of tentacles; the sides of the back with a tubercled keel; anus dorsal; radula 0.1.0 with 15 teeth

Actæonia QUATREFAGES.

Limapontia JOHNSTON 1836.

Pontolimax CREPLIN 1848.

Foot rounded in front. Colour usually blackish brown, head, middle of the back and the posterior point of the body lighter (white or light bluish). L. up to 8 mm.

L. capitata (MÜLLER 1776) = *nigra* JOHNSTON 1836.

Body with 5 light spots, one central and two lateral on each side. L. 1,25 mm. (BERGH 1873)

var. *islandica* STEENSTRUP 1868.

Actæonia QUATREFAGES 1844.

Skin wrinkled longitudinally as in a *Limax*. Colour blackish, head-lobes, region of the eyes and the posterior end of the body light; dorsal keels white-spotted. L. c. 4 mm.

A. corrugata ALDER & HANCOCK 1848.

Pteropoda.

Heart, nervous and generative systems as in Opisthobranchia; foot with wing-shaped processes, homologous with the parapodia in Tectibranchia.

Synopsis of Families.

Subordo I Thecosomata.

Mantle, mantle-cavity and shell present; head indistinct; one pair of tentacles; fin-lobes continuous over the mouth; radula 1.1.1.

- I. Shell calcareous, very thin, sinistral, with operculum; branchial cavity dorsal; columellar muscle ventral; anus on the right side *Fam. Limacinidæ.*
 II. Shell symmetrical, without operculum; branchial cavity ventral; columellar muscle dorsal; anus on the left side *Fam. Cavoliniidæ.*

Subordo II Gymnosomata.

Mantle, mantle-cavity and shell absent; head distinct; two pairs of tentacles; fin-lobes separated; anus on the right side.

Body long, acuminate behind; no gills *Fam. Clionidæ.*

Synopsis of Genera and Species.

Fam. Limacinidæ.

- I. Shell depressed, broadly umbilicated, with transversal striæ *Limacina* CUVIER.
 II. Shell conical, narrowly umbilicated, smooth or spirally striated
Spirialis EYDOUX & SOULEYET.

Limacina CUVIER 1817.

Whorls 5—6, transversally striated; spire somewhat elevated; columella straight with reflexed margin; umbilicus surrounded by a keel; outer aperture-margin semi-circular. Shell hyaline; animal dark-purplish or violet with light, transparent wings. Diameter of the shell about 6 mm.

L. helicina (PHIPPS 1774)
 = *arctica* (FABRICIUS 1780).

Spirialis EYDOUX & SOULEYET 1840.

1. Whorls 9—10, spirally striated, the last = $\frac{2}{5}$ of the length of the shell. Body purplish, shell hyaline of about 5 mm. in length

S. balea (MÖLLER 1841) = Gouldi STIMPSON 1851.

2. Whorls 6—7, spiral sculpture indistinct; spire less elevated than in the preceding species; the last whorl = $\frac{2}{3}$ of the length of the shell. Colour as in the preceding species. L. of the shell about 3 mm.

S. retroversus (FLEMING 1823) = Flemingii FORBES 1848.

Fam. Cavoliniidæ.

1. Shell calcareous, rhomboidal, with lateral keels, broadest at the aperture; lateral slits absent Clio BROWNE.

2. Shell mostly corneous, with a lateral slit on each side, through which the mantle is deflected over the shell Cavolinia ABILDGAARD

Clio BROWNE 1756.

Cleodora PÉRON & LESUEUR 1810.

Shell triangular, convex above, slightly concave below; on the upper side with 5 ridges, on the under side with one. Colour of the shell glassy white; the mantle of the animal has a metallic lustre. L. 15 mm. *C. pyramidata* BROWNE 1756.

Cavolinia ABILDGAARD 1791.

Diacria GRAY 1842.

Shell sub-triangular with one posterior and two lateral spines, without striae but with 5 keels on the upper surface. Mantle without produced appendages. L. 10 mm. *C. trispinosa* (LESUEUR 1821).

Fam. Clionidæ.

Clione PALLAS 1780.

Wings ovate-triangular, nearly as long as the breadth of the body. Colour rosy towards back, in other parts bluish hyaline. Radula 8.1.8 (G. O. SARS 1878) or 12.1.12 (LOVÉN 1847). L. about 35 mm.

C. limacina (PHIPPS 1774) = *Clio borealis* BRUGUIÈRE 1792.

Geographical and bathymetrical distribution.

[sh(s). = shell(s); sp(s). = specimen(s); Mus. G. = Museum at Gothenburg; Mus. U. = Museum at Uppsala].

Actæon tornatilis (LINNÉ 1766).

Habitat:

West coast of Sweden: Kullen, Skåne, 2 shs. — Kattegatt: Lilla Middelgrund, 16–17 fms, sand and algæ (Gunh. Exp. 1878) 2 shs. — Göteborg Skärgård 35 fms 1 sp. (Malm; Mus. G.) — Bohuslän: ¹) Gullmarn (Lovén; 1885; 1886) 3, 1, 1 shs. resp.; D:o Islandsberg, 5–15 fms (Aurivillius ¹/₈ 1890) 1 sp.; D:o Oxvik, Gåsörännan (Aug. 1894) 2 sps.; ²) Dyngö, Fjällbacka (Goës 1862) 6 shs.; ³) Nordkoster 95 fms (Lovén) 2 shs.; D:o 26 fms, mud with shells (Lovén & Torell) 7 shs.; D:o west side, off the islands, 10 fms, stones and clay (Ljungman ²/₈ 1865) 5 shs.; ⁴) Lindö, near Kosterrännan, 15 fms (Olsson) 1 sp. — Skagerrack 60 fms, sand and mud (Lindahl) 4 shs.

North Sea: Bodybet, 30–50 fms, sand with shells (v. Yhlen) 1 sh.

Coasts of Norway: Herfö, Svinesund, 13 fms (Lovén & Torell) 2 shs.; Utnefjord, Hardanger, 100 fms, stones (Bovallius) 2 shs.; Bergensfjord (Koren) 3 shs.; Godö 90 fms, clay (v. Yhlen) 2 shs.; Rissenbugt, Trondhjemsfjord, 15–30 fms, sand mixed with clay (Östergren ¹/₇ 1902) 2 shs.

General distribution:

Norway: the whole south and west coast to Lofoten 10–100 fms (G. O. Sars 1878); Österfjord (Appellöf 1896); Kristianiafjorden (Asbjørnsen 1854). — Iceland (Mörch 1868; Verkrüzen 1872). — Faroe Islands (Mörch 1867). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — Sweden: Kullen (Lilljeborg 1854). — Denmark: Skagen—Hellebæk 125 fms (Petersen 1888). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssiére 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). Depths up to 125 fms. Mud, sand, algæ.

var. **tenellus** LOVÉN 1846.

Habitat:

West coast of Sweden: Kullen, Skåne (Lovén) 1 sh.

General distribution:

Faroe Islands (Mörch 1867).

Retusa truncatula (BRUGUIÈRE 1792).

Habitat:

The Baltic: Kiel (Möbius) 6 shs.

West coast of Sweden: Halland, Varberg (Torell) 1 sh. — Bohuslän: ¹) Marstrand, the harbour, mud and algæ (Lindahl) 8 shs.; ²) Gullmarn, algæ, c. 65 sps.; ³) Väderöarna, sand and clay (Goës 1862) 1 sh.; D:o 60 fms, coral bottom, 1 sp.; ⁴) Dyngö, Fjällbacka (Goës 1862) 1 sh.; ⁵) Nordkoster 2 shs.; ⁶) Svinesund, 30—70 fms, stones and mud (Lindahl) 1 sh. — Skagerrack 192 fms, clay (Lindahl) 1 sh.

General distribution:

Norway: the south and west coast to Öxfjord, Finmarken, 5—80 fms (G. O. Sars 1878); Nordfjord 40—80 fms (Grieg 1897). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — Sweden: off Göteborg (Malm 1858); Kullen, Skåne (Lilljeborg 1854). — Danish coast: Kattegatt, the Belts and Travemünde (Mörch 1871; Petersen 1888 and 1889). — Warnemünde (Möbius 1873). — Heligoland (Heineke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). — Canary Isles (M^r Andrew 1852). Depths up to 192 fms. Mud, sand, algæ.

var. **pellucida** (BROWN 1827).

Habitat:

Norway: Finmarken: Kalfjord, 15 fms (Goës & Malmgren) 1 sh.; Grötsund, 4 fms (Goës & Malmgren) 1 sh.

General distribution:

Bohuslän (Lovén 1846). — Scotland, Shetland (Jeffreys 1867).

Retusa ovata (JEFFREYS 1870).

Habitat:

Norway: Lofoten 200—300 fms (G. O. Sars) 1 sh.

General distribution:

Norway: Vestfjorden 341 fms (Friele & Grieg 1901); Lofoten (G. O. Sars 1878).

— North Atlantic (Jeffreys 1870). — British coasts, Shetland (Forbes & Hanley 1853; Jeffreys 1867). — Portugal (Nobre 1905). — Algiers, the harbour (Carus 1889). — Azores 1073 fms; Florida Channal; Culebra Island, West Indies; Pernambuco (Watson 1886). — East coast of N. America 120—400 fms (Pilsbry 1893). Depths up to 1073 fms. Mud.

***Retusa umbilicata* (MONTAGU 1803).**

Habitat:

West coast of Sweden: Bohuslän: ¹) Gullmarn (Lovén) 7 shs.; D:o Gåsörännan 8 shs.; D:o Oxvik (Aurivillius 1894) 1 sh.; D:o off Bondhålet (Aurivillius) 2 sps.; D:o Fiskebäckskil (Aurivillius 1894) 20 sps.; D:o Grötöhamn 2 sps.; ²) Nordkoster (Lovén) 2 shs.; ³) Lindö, near Kosterrännan, (Lovén & Torell) 1 sh.; ⁴) Väderöarna, sand and clay (Goës 1862) 3 shs.; ⁵) Skagerrack, 23 fms, clay and shells (Lindahl) 1 sh.; D:o 142 fms (Lindahl) 3 shs.

Norway: Finmarken, Kalfjord 15—80 fms (Goës & Malmgren) 9 shs.

General distribution:

Norway: south and west coast to Lofoten 10—300 fms (G. O. Sars 1878). — England and Ireland (Jeffreys 1867). — Kattegatt and Danish coast, 10—15 fms (Pettersen 1888); Limfjorden (Mörch 1871). — France 1019 m (Vayssière 1901). — Portugal (Nobre 1905). — Vigo Bay; Gibraltar (M'Andrew 1852). — Mediterranean, Adriatic and Aegean (Carus 1889). Depths up to 1019 m. Clay and sand.

***Retusa strigella* (LOVÉN 1846).**

Habitat:

Gullmarn, Bohuslän (Lovén) 1 sh.

General distribution:

Norway: Kristianiafjorden (Asbjörnsen 1854). — Sweden: off Göteborg (Malm 1858). — Scotland (Forbes & Hanley 1853). — Ireland (Nichols 1899). — Portugal (Nobre 1905). — Mediterranean: coast of Piemont (Carus 1889).

***Retusa substriata* (JEFFREYS 1877).**

Distribution: West Greenland 59° 10' N. 50° 25' W., 1750 fms 1 sh., fragment (JEFFREYS 1877).

***Retusa nitidula* (LOVÉN 1846).**

Habitat:

West coast of Sweden: Skåne, Kullen (Lilljeborg) 1 sh. — Halland, Varberg (Torell) 3 shs. — Bohuslän: ¹) Vinga, Marstrand, 25 fms, sand and stones (Lindahl)

1 sh.; ²) Gullmarn (Lovén) c. 30 sps.: ³) Väderöarna, coral bottom (Lovén) 5 shs.: ⁴) Nordkoster, 26 fms, mud and shells (Lovén & Torell) 4 shs.; D:o, on the shore (Ljungman 1865) 1 sh.; ⁵) Svinesund 30—70 fms, stones and mud, (Lindahl) 2 shs. — Skagerrack 60 fms, mud (Lindahl) 7 shs.; D:o 150 fms, clay (Lindahl) 10 shs.; D:o 192 fms, clay (Lindahl) 5 shs.

General distribution:

Sweden: off Göteborg (Malm 1858); Kullen (Lilljeborg 1851). — Danish coast: Skagen—Öresund to 125 fms (Mörch 1871; Petersen 1888). — Norway: the whole south and west coast; Lofoten; Hammerfest (G. O. Sars 1878); Vestfjorden 341 fms (Friele & Grieg 1901). — Dogger bank; Scotland, Shetland (Jeffreys 1867). — Heligoland (Heincke 1894). — France (Vayssière 1901). — Mediterranean and Adriatic (Carus 1889). — Madeira (Watson 1897). Depths to 341 fms. Mud, clay, sand, stones.

Retusa pertenuis (MIGHELS 1839).

Habitat:

West coast of Norway: Finmarken (Goës & Malmgren): Kalfjord, 15 fms, clay, 1 sh.; Balfjord 60—70 fms; Kjosén, Ulfsfjord, 20 fms, clay c. 25 shs.

The Kara Sea: Leche (1878), 2—32 fms, sand, clay.

North of Siberia: Aurivillius (1887), 9 fms, sand.

Spitzbergen: Horn Sound, 60 fms, sand and clay with stones (Torell) 2 sps. — Bel Sound, 30—40 fms, stones (Lovén) c. 40 sps.; D:o 50 fms, fine clay (Torell) 20 sps. — 16'—20' W. of Ice Fjord, 120—140 fms, clay with stones (¹³/₈ 1868) 5 sps. — Advent Bay, 20—40 fms, clay (⁸/₈ 1868) c. 40 sps. (together with *Cylichna Reinhardtii*). — Cross Bay, 60 fms, clay and stones (1861) 1 sp. — Smeerenberg, 85 fms, clay (²⁰/₈ 1861) 5 sps. — Treurenberg Bay, 12—20 fms, sand mixed with clay (Torell) 1 sp. — Swedish Foreland, King Charles' Land, 12—20 m, fine blackish gray clay (⁸/₈ 1898) 1 sp.: D:o 78° 50' N. 29° 39' E., 60—70 m, fine blackish gray clay (¹⁷/₈ 1898) 1 sp. (together with *Cylichna alba*). — Mossel Bay, 9½ fms, sand and shells (²¹/₈ 1873) 6 sps.

Iceland: Beru Fjord, 15—30 fms, clay (Torell) 2 sps.

West Greenland: Posselt (1898) 5—132 fms, clay, sand, stones, algæ. Further: Disco, Mellemfjord, 10—20 fms, clay with sand (1871) 1 sh. — Christianshaab (1870) 2 shs. — Egedesminde, 10—20 fms (1870) 2 sps. — Illordlek, 20 fms, clay (1870) 1 sh. — Augpalartok 280 fms (Torell) 1 sh. — Smallesund 61° 34' N. 49° 7' W., 8 fms, mud (Amondson) 1 sp.

Baffin Bay: 72° 38' N. 77° 10' W., 25—35 m, hard mud (1894) 4 sps.

East Greenland: Mackenzie Bay 12—18 m, 2 sps. (Mus. U.; Hägg 1905).

Newfoundland: 46° 5' N. 51° 44' W., 56 fms, sand and shells (Ing. & Glad. ⁶¹/₈ 1871) 1 sp.

General distribution:

Norway: Vadsö 50—60 fms; Tromsö 10—15 fms (G. O. Sars 1878); Tromsö; Hammerfest 20 fms (Friele & Grieg 1901). — North Atlantic, 2 local. 125—148 fms (Friele & Grieg 1901). — Bear Island 18 fms (Friele & Grieg 1901). — Spitzbergen, the west coast 299 m (Friele & Grieg 1901; Knipowitsch 1901, 1902). — Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Knipowitsch 1896). — Behring Strait and Sea (Krause 1885). — Aleutian Islands (Krause 1885). — Parry Islands (Reeve 1855). — Nova Scotia; Gulf of Main (Whiteaves 1901). Depths 5—299 m. Sand, clay.

var. *turrita* (MÖLLER 1842)

(incl. var. *elongata* LECHE 1878).

Habitat:

The Kara Sea: Leche (1878), incl. var. *elongata*, 5—12 fms, sand.

North of Siberia: Aurivillius (1887, R. obtusa), 5—8 fms, clay and sand.

Spitzbergen: Bel Sound, 30—40 fms (Lovén), together with the type.

Greenland: Posselt (1898) 5—30 fms.

Baffin Bay: 72° 38' N. 77° 10' W. 25—35 m, hard mud (1894), together with the type.

General distribution:

White Sea 142 m (Knipowitsch 1896). — Behring Sea (Krause 1885). — Off the Channel and Shetland, 20—85 fms (Jeffreys 1867; *Utriculus obtusus* var. *Lajonkairiana*). Depths 3—142 m. Sand, clay.

Retusa obtusa* (MONTAGU 1803).*Habitat:¹**

The Baltic: Gotland. Badelundsviken, 2—3 fms algæ (¹¹/₈ 1882, Kolmodin) 2 shs. — 7 miles E. by S. of Svaneke, Bornholm, 38 fms clay (Kolmodin) 9 shs. — 6' 30" N. N. E. of Svaneke, 35—37 fms, sand and clay (¹²/₇ 1872, Kolmodin) 35 sps. — 1 mile N. N. E. of Kristians ö, E. of Bornholm, 50 fms, clay (⁹/₇ 1882, Kolmodin) 25 shs. — 5' E. by S. of Nexö, Bornholm, 40 fms, clay (1882, Kolmodin) 1 sp. — 5' N.W. of Rönne, Bornholm, 24 fms, sand (²⁶/₆ 1882, Kolmodin) 9 shs. — 11' N.N.W. of Rönne, 27 fms, sand (²⁷/₆ 1882, Kolmodin) 1 sh. — 7 miles N.N.W. of Rönne, 25 fms, sand and clay (²⁸/₆ 1882, Kolmodin) 1 sh. — 6' from Kungsholmen, Karlskrona, 23 fms, sand and clay (¹³/₇ 1882, Kolmodin) 2 shs. — 55° 43' N. 16° 14' E., 45 fms, clay (June 1871, Öberg) 5 sps. — 54° 57' N. 13° 42' E., 25 fms, mud (July 1871, Öberg) 25 shs. — 54° 55' N. 13° 12' E., 24 fms, mud (³/₇ 1871, Öberg) 2 sps.

¹ The *Utriculus obtusus* mentioned by AURIVILLIUS 1887 (from Jugor sharp) is a *Retusa pertenuis* var. *turrita*, which see.

— 54° 44' N. 13° 25' E. 19 fms, clay with sand (July 1871, Öberg) 3 shs. — Malmö, the harbour, 7—8 fms, *Zostera* and algæ (²⁰/_s 1864, Smitt) 2 shs. — South Öresund, 7 fms, algæ (Bovallius & Théel 1878) 20 sps.; D:o 8—9 fms, sand (Théel & Trybom) 10 shs.

West coast of Sweden: Bohuslän, Gullmar, 2 shs.

General distribution:

Norway: Tromsö; Kjosén (G. O. Sars 1878); Florö 30 fms (Friele 1876). — Iceland (Mörch 1868). — British coasts (Jeffreys 1867). — Danish coast (Mörch 1871; Petersen 1888, 1889). — Travemünde (Lenz 1875). — Mecklenburg (Möbius 1873). — Heligoland (Heincke 1896). — Holland and Belgium (Maitland 1897). — Coasts of France to the Mediterranean (Pilsbry 1893). Depths 2—40 fms. Sand, mud, algæ.

***Retusa Gouldi* (COUTHOUY 1839).**

Distribution: Iceland (Verkrüzen 1872). — Newfoundland (Verkrüzen 1878). — Massachusetts, New England, 27—44 m (Verrill 1882).

***Retusa mamillata* (PHILIPPI 1836).**

Habitat:

Norway: Hitterö, 20—30 fms, shells, 2 shs.

General distribution:

Norway: Kristianiafjorden to the west coast 10—60 fms (G. O. Sars 1878). — England, Scotland, Shetland (Jeffreys 1867). — Aalborg, Denmark (Petersen 1888). — Heligoland (Heincke 1896). — France (Vayssiére 1901). — Portugal (Nobre 1905). Mediterranean, Adriatic, Aegean (Carus 1889). — Canaries (M'Andrew 1852).

***Volvula acuminata* (BRUGUIÈRE 1792).**

Habitat:

West coast of Sweden: Bohuslän: Gullmar (Lovén) 1 sh. — Väderöarna, sand and clay (Goës 1862) 1 sh. — Nordkoster, west side, off the islands, 10 fms, sand and stones (²¹/_s 1865, Ljungman) 1 sh. — Kosterfjorden (Malmgren) 1 sp.

General distribution:

Norway: Dröbak, Kristianiafjorden, 50—60 fms (M. Sars 1870); Molde, 40 fms (Danielssen 1859). — England, Ireland, Scotland, Shetland (Jeffreys 1867). — Skagen and E. Kattegatt (Petersen 1888). — France (Vayssiére 1901). — Gibraltar (M'Andrew 1852). — Mediterranean, Adriatic and Aegean (Carus 1889). — Gulf of Suez (Pilsbry 1893). Depths 10—60 fms. Sand, clay.

Scaphander lignarius (LINNÉ 1766).**Habitat:**

North Sea: Bodybet 50—100 fms, gravel, stones and sand (v. Yhlen) 7 shs.

Coasts of Norway: Godö, 90 fms, clay (v. Yhlen) 1 sh. — Tärnefjord, 100 fms, stones (v. Yhlen) 1 sh. — Storeggen, 80 fms, gravel (v. Yhlen) 1 sh.; D:o 120 fms, stones (v. Yhlen) 1 sh.; D:o east side towards Bredsund, 200 fms, gravel and shingles (v. Yhlen) 5 shs. — Jederen, 100—170 fms (Gunh. Exp. 1877) 1 sh. — N. W. of Siggens, the islands off Bergen, 100 fms (Uddström), 1 sp. — Ilsviken, Trondhjemsfjord, 20—30 m, sand (Aug. 1902, Östergren) c. 20 sps.: D:o Rödbjerg 150—200 m 1 sp. (Mus. U.).

General distribution:

Norway: south and west coast to Lofoten, 30—50 fms (G. O. Sars 1878); Nordfjord 40—80 fms (Grieg 1897); Husö 40—60 fms (Friele & Grieg 1901); Christiansund (Lilljeborg 1851). — Sweden: Bohuslän (Lovén 1846). — British coasts (Jeffreys 1867). — Heligoland (Heincke 1894). — Belgium (Friele & Grieg 1901). — France 435 m (Vayssiére 1901). — Portugal (Nobre 1905). — Gibraltar (M^r Andrew 1852). — Mediterranean, Adriatic, Aegean (Carus 1889). Depths up to 333 fms (Friele & Grieg 1901). Clay, sand, stones.

Scaphander punctostriatus (MIGHELS 1841).**Habitat:**

West coast of Sweden: Bohuslän: ¹)Gullmarn 50—70 fms, clay, numerous sps.; D:o Saltkällefjorden 20—30 fms (Aurivillius 1894) 3 sps.; D:o Skår, 80 fms 1 sp. (Mus. G.); ²)Nordkoster, 100—130 fms, clay (July—Aug. 1865, Ljungman) 11 sps.; D:o 40—80⁷ fms (July 1895, Aurivillius) 12 sps.; Kosterrännan 130 fms, clay (Gunh. Exp. July 1877) 1 sp.; Koster, 80 fms, 1 sp. (Mus. G.); ³)Svinesund, 60—70 fms, stones and mud (Lindahl) 1 sh. — Skagerrack: »The Deep Hole», 380 fms, fine clay (July 1877, Bovallius & Théel) c. 20 shs.; D:o 150—450 fms, fine brown clay and stones (Gunh. Exp. 1879) numerous shs.

Coasts of Norway: Dröbak, 5—6 fms, 1 sh.; D:o 60 fms, 2 shs. — Bergen 1 sh. — Molde 3 sps. (Mus. U.). — Finmarken: Tranö, 80 fms (Lovén) 2 shs.; Grötsund, 80—100 fms 1 sh.; Kalfjord, 100 fms (Goës & Malmgren) 3 shs.; Karlsö, N. of Tromsö, 70 fms (Malmgren 1861) 1 sh.

Peninsula Kola: Jokonga Bay (Aug. 1877, Sandeberg) 1 sp.

Greenland: Posselt (1898), 130 fms, clay with stones.

General distribution:

Norway: Vadsö to Kristianiafjorden, 50—300 fms (G. O. Sars 1878); Husö 40—100 fms $\frac{2}{3}$ (Friele & Grieg 1901); Tromsö (Aurivillius 1886; Schneider 1894); Porsangerfjord (Friele 1902); Nordfjord 100—200 fms (Grieg 1897); Bukkenfjord; Sognefjord (Grieg 1896); Herlöfjord (Appellöf 1894). — North Atlantic, 10 local.; Norwe-

gian Islands, Spitzbergen, 10—20 fms (Friele & Grieg 1901). — Murman coast and Sea (Pfeffer 1889; Herzenstein 1893). — Iceland (Jeffreys 1867). — Ireland 345 fms (Nichols 1899). — France (Vayssière 1901). — Mediterranean, Palermo (Carus 1889). Azores 1000 fms (Watson 1886). — Culebra Island, West Indies, 390 fms (Watson 1886). — Barbadoes, 288 fms; Gulf of Mexico, 553 fms (Dall 1886^b). — Massachusetts (Gould & Binney 1870). Depths 5—1450 fms (Jeffreys 1877). Clay, stones.

Atya utriculus (BROCCHI 1814).

Habitat:

West coast of Sweden: Bohuslän: ¹) Gullmarn (Lovén) 4 sps.: D:o (1881—1885) 2 sps.; D:o Flatholmsrännan 40 fms 1 sp. (Mus. G.); ²) Väderöarna, 25—35 fms, sand and clay (Goës 1862) 15 sps.; St. Väderö, 55 fms (Olsson 1869) 1 sp.; D:o, Styrösö 20—30 fms (Olsson 1869) 2 sps.; ³) Kosterrännan, 25 fms, clay (Gunh. Exp. July 1877) 1 sp.; D:o clay and shells (Ljungman 1865) 1 sh.; D:o Nordkoster, west side, 10 fms, sand and stones (²¹/₈ 1865, Ljungman) 3 shs.; D:o, Ramsö, 100 fms, clay, (Eisen & Stuxberg ⁵/₇ 1871) 1 sp.; Koster, 25 fms, 1 sp. (Mus. G.); ⁴) Lindö, near Kosterrännan, 15 fms, 3 sps.; ⁵) Svinesund, 30—70 fms, stones and mud (Lindahl) 2 shs. — Skagerrack, 150 fms, clay (Lindahl) 1 sh. — Kattegatt, Lilla Middelgrund, 16—17 fms, sand and algæ (Gunh. Exp. July 1878) 1 sh.

Coasts of Norway: Hitterö, 20—30 fms, shells (Öberg) 1 sh.

General distribution:

Norway: the west coast to Kristianiafjorden, 20—70 fms (G. O. Sars 1878). — Dogger bank, England, Ireland, Scotland, Shetland (Forbes & Hanley 1853; Jeffreys 1867). — North Atlantic 223 fms (Friele & Grieg 1901). — Danish coast, 15—30 fms (Mörch 1871; Petersen 1888). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). — Canary Islands (M'Andrew 1852). Depths 10—223 fms. Mud, sand, stones.

Cylichna cylindracea (PENNANT 1777).

Habitat:

West coast of Sweden: South Öresund, 7 fms, fine sand and algæ (1878, Théel & Trybom) c. 15 shs. — S. of Kullen, Skåne, 14 fms, sand and clay with shells (Gunh. Exp. ¹⁶/₇ 1878) 1 sh. — Varberg, Halland (Torell) 1 sh. — Göteborg Skär-gård 20 fms, 3 sps. (Malm; Mus. G.). — Bohuslän: ¹) Marstrandsfjorden (1864) 1 sp.; ²) Gullmarn (Lovén) numerous sps.; D:o, Bökevik, 4 sps.; D:o Oxvik (July 1894) c. 20 sps.; D:o Blåbergsholmen, 20 fms, clay (Théel) 3 sps.; D:o, N. Gåsöfjord (Jan. 1890, Wirén) 8 sps.; ³) Dyngö, Fjällbacka (Goës 1862) 15 shs.; ⁴) Väderöarna, sand and clay, (Goës 1862) 4 shs.; Styrösö, 10—20 fms (Aug. 1884) 4 sps.; D:o 30 fms (Olsson 1869) 8 sps.; ⁵) Nordkoster, west side, 26 fms, 16 shs.; D:o 10 fms, sand and

stones, 1 sh.: D:o $\frac{1}{4}$ mile W. of Nordkoster, off the islands, sand and stones, 10 fms (July 1865, Ljungman) 9 sps.: ⁶) Svinesund, 30—70 fms, stones and mud (Lindahl) 14 shs. — Skagerrack, 23—150 fms, shells, sand, mud and clay (Lindahl) numerous shs.; D:o $57^{\circ} 40' 24''$ N. $10^{\circ} 49' 18''$ E. $14\frac{1}{2}$ fms, clay with fine sand ($\frac{1}{9}$ 1871, Lind af Hageby) 2 sps.: — Torrboskär, Skagen, 27 fms, clay with sand (Gunh. Exp. $\frac{8}{7}$ 1878) 1 sh. — S. of Morupsbank, 12—19 fms, clay (Gunh. Exp. $\frac{12}{7}$ 1878) 1 sh.

North Sea: Bodybet, varying depths, sand and clay (v. Yhlen) 1 sh.

Coasts of Norway: Herfö, Svinesund, 16 fms, 10 sps. — Utne, Hardangerfjord, 95 fms, sand, 2 sps. — Hitterö, 20—30 fms, shells (Öberg) 2 shs. — Bergen (Sars) 2 sps.

General distribution:

Norway: rarely along the whole south and west coast to Lofoten, 40—120 fms (G. O. Sars 1878); Kristianiafjorden (Asbjörnsen 1854); Bukkenfjord (Grieg 1896); Nordfjord (Grieg 1897). — British coasts: Scotland (Jeffreys 1867; McIntosh 1874). — Denmark: Skagen—Öresund to 125 fms (Mörch 1871; Petersen 1888). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). — Madeira, Canaries (M. Andrew 1852). — Azores; Ascension 420 fms; Tristan da Cunha (Watson 1886). — St. Helena; Whydah, West Africa (Pilsbry 1893). Depths 7 to 420 fms. Clay, mud, sand, stones.

Cylichna alba (BROWN 1827).

Habitat:

West coast of Sweden: Bohuslän, Gullmarn, 1 sh. — Skagerrack: »The Deep Hole», 350 fms, clay (July 1877, Bovallius & Théel). 8 white sps.: D:o 150—336 fms, fine brown clay (Bovallius & Théel 1879) c. 30 white sps.; D:o 150—336 fms (Lindahl) 6 shs.

The North Sea: $58^{\circ} 55'$ N. $3^{\circ} 28'$ E. 170—200 fms, gravel (v. Yhlen) 4 shs.

West coast of Norway: Storeggen 50—140 fms, shingles (v. Yhlen) 4 shs. — Hitterö, 20—30 fms, shells (Öberg) 2 shs. — Bergen (Sars) 10 shs. — Tärnefjord, 100 fms, stones (v. Yhlen) 3 shs. — Aalesund, 30—50 fms, mud (v. Yhlen) 1 sh. Finmarken: Kalfjord, 15—110 fms (Goës & Malmgren) c. 30 shs.; Balfjord, clay (Goës & Malmgren) c. 15 shs.; Ulfsfjord, 25—50 fms (Goës & Malmgren) 5 shs.; D:o Kjosén, 80—100 fms, clay (Goës & Malmgren) c. 30 shs.; Grötsund 4—25 fms shells (Goës & Malmgren) 3 shs.; Sörvær (Lovén) 2 shs.; Karlsö, N. of Tromsö, 20—70 fms (Goës & Malmgren) 7 sps.

Peninsula Kola: Ora Fjord ($\frac{2}{8}$ 1877, Sandeberg) 2 shs. — Teriberki Fjord, 20 fms, clay with sand (1877, Sandeberg) 8 sps.

The Kara Sea: Leche (1878), 3—70 fms, clay and sand.

Siberia and Behring Sea: Aurivillius (1887), 5—55 fms, clay and sand.

Bear Island—Norway: $73^{\circ} 27'$ N. $23^{\circ} 11'$ E. 460 m, blackish gray clay, bottom temp. $+ 2.67^{\circ}$ C. ($\frac{12}{6}$ 1898) 1 sh.

Spitzbergen: 76° 36' N. 12° 10' E., 50' W. of Horn Sound, 1750 m, »transition-clay», bottom-temp. — 1,3° C. (¹/₈ 1898) 3 white shs. — Recherche Bay outside Reindeer Point, 80 m, bluish gray fine clay (⁸/₇ 1898) 3 sps. — Bel Sound, 30–50 fms, clay (Torell) 6 sps. — Eders Island, clay (²³/₆ 1898) 3 shs. — Ice Fjord, 50 fms, fine clay, 7 sps.; D:o 5 fms, clay, 1 sp. (together with *C. insculpta*). — 16'–20' W. of Ice Fjord, 120–140 fms, stones and clay (³/₈ 1868) 1 sh. — Mossel Bay, 9½ fms, sand and shells (²¹/₃ 1873) 1 sp. (together with *Retusa pertenuis*); D:o 2–3 fms, fine sand (³¹/₁₂ 1872) 5 sps.; D:o 12 fms, sand (⁵/₆ 1872) 5 sps. — Lovén's Mount, 36 fms, stones and clay (¹¹/₉ 1868) 4 sps. — Fair Harbour, 10 fms, clay (²²/₈ 1872). — Castrén's Islands 30–40 fms, clay and mud (⁷/₈ 1868) 6 sps. — Swedish Foreland, King Charles' Land, 12–20 m, fine blackish gray clay (⁸/₈ 1898) 1 sh.; D:o 78° 40' N. 27° 10' E., 14–16 m, fine blackish gray sand, clay with stones and algæ, bottom temp. + 0,9° C. (⁵/₈ 1898) 1 sp. (together with *C. Reinhardti* and *C. scalpta*); D:o 78° 50' N. 29° 39' E., 60–70 m, fine blackish gray clay (¹⁷/₈ 1898) 2 shs.

Iceland: Beru Fjord, 15–30 fms, clay (Torell) 10 sps.

Greenland: Posselt (1898) 4–235 fms, clay, sand, stones. Further: Sukkertoppen (Amundsen) 1 sh. — Egedesminde, Tarajurnilik, 5–10 fms, clay with stones and algæ (Öberg 1870) 2 shs. — Disko, 18 fms 1 sh. — Umanak 250 fms 2 shs. (= *C. Reinhardti* in Posselt). — 68° 24' N. 54° 39' W., 215 fms, green clay (Ing. & Glad. 1871) 1 sh., white.

Baffin Bay: 72° 38' N. 77° 10' W., 25–35 m (1894) 17 sps. — Franz-Joseph Fiord, 220 m, clay, 1 sp. (1900); Mackenzie Bay, 12–35 m, 4 sps. (Mus. U.; Hägg 1905).

Newfoundland: 46° 5' N. 51° 44' W., 56 fms, sand and shells (Ing. & Glad. ¹⁶/₈ 1871) 5 sps.

General distribution:

Norway: the whole south and west coast; Lofoten 60–300 fms, very common, more rare in Finmarken (G. O. Sars 1878); Varangerfjord (De Guerne 1886); Nordfjord (Grieg 1897); Bukkenfjord (Grieg 1896); Österfjord (Appellöf 1896); Hammerfest, Tromsö, Salten, Husö to 60 fms (Friele & Grieg 1901). — North Atlantic 17 local. (Friele & Grieg 1901). — Norwegian Islands, Spitzbergen (Friele & Grieg 1901; Krause 1892). — Murmian coast and Sea (Pfeffer 1889; Herzenstein 1893). — White Sea (Wagner 1885; Knipowitsch 1896). — Behring Strait and Sea to Aleutian Islands (Krause 1885). — Alaska (Dall 1885). — California (Friele & Grieg 1901). — Japan (Watson 1886). — East Canada (Whiteaves 1901). — Pernambuco; Azores (Watson 1886). — Coasts of Shetland and Ireland; Bay of Biscay (Jeffreys 1877). Depths to 1336 fms, living (Jeffreys 1877). Clay, sand, stones, algæ.

var. *corticata* (MÖLLER 1842).

Habitat:

Coasts of Norway: Dröbak, clay (Lovén & Torell) c. 30 shs. — Finmarken: Grötsund, 80–100 fms (Goës & Malmgren) 10 shs.; Balfjord, 60 fms, 2 shs.

The White Sea: Solowetzkiy Island (1893, Jacobson) 3 sps.

The Kara Sea: Leche (1878).

North of Siberia: Aurivillius (1887), 5—8 fms, clay, sand.

Spitzbergen: Horn Sound, 40—60 fms, clay and stones, 5 sps. — Advent Bay, 20—40 fms, clay ($\frac{8}{8}$, 1868) 4 sps. — Danes Gat, 7—10 fms, stones and algæ ($\frac{31}{3}$, 1868) 1 sp. — Mossel Bay, 9 $\frac{1}{2}$ fms, algæ ($\frac{7}{4}$, 1872) 1 sp.; D:o 1 $\frac{1}{2}$ fms algæ ($\frac{21}{3}$, 1872) c. 30 sps.; D:o 9 $\frac{1}{2}$ fms, sand ($\frac{23}{2}$, 1872) c. 20 sps. — Treurenberg Bay, 12—20 fms, sand and clay (1861) 1 sp. — Lomme Bay, 25—35 fms, clay ($\frac{9}{9}$, 1868) c. 30 sps. — N. E. of the Seven Islands, 81° 14' N. 22° 50' E., 150 m, gray mud, bottom temp. + 2° C. ($\frac{20}{8}$, 1898) 3 shs. — Bremer Sound, King Charles' Land, 100—110 m, fine clay with great stones, bottom temp. — 1,45° C. ($\frac{8}{8}$, 1898) 6 sps. — N. of Hope Island, 77° 25' N. 27° 30' E., 160 m yellowish brown clay, bottom temp. — 1,71° C. ($\frac{23}{6}$, 1898) 4 shs.

Greenland: Posselt (1898) 5—150 fms, clay, sand, stones. Further: Upernivik, 70 fms, 1 sh. — 53° 34' N. 52° 1' W., 980 fms, light gray clay with stones (1871) 1 white sh. — 63° 35' N. 52° 57' W., 43 fms, sand and shells (1871) 2 shs. (= *C. alba* in Posselt).

Baffin Bay: 72° 27' N. 74° 52' W., 20 m mud (1894) 4 sps.

East Greenland: Mackenzie Bay, 1 sp. and 1 sh. (Mus. U., Hägg 1905).

General distribution:

Norway: Finmarken, 30—40 fms, very common; the whole coast (G. O. Sars 1878). — White Sea (Knipowitsch 1896). — Spitzbergen (Pfeffer 1895; Krause 1892; Knipowitsch 1901, 1902; Friele & Grieg 1901). — Franz-Joseph Land (Melville & Standen 1900). — Kara Sea (Collin 1887). — Grinnell Land (Verkrüzen 1878). — Parry Islands (Sutherland 1852). — East Canada (Whiteaves 1901). Depths up to 267 m (Friele & Grieg 1901). Clay, sand, algæ.

Cylichna insculpta (TOTTEN 1835)

(incl. var. *valida* LECHE 1878).

Habitat:

Kara Sea: Leche (1878, var. *valida*), 8—10 fms, sand.

North of Siberia: Aurivillius (1887, var. *valida*), 5—10 fms, sand, stones.

Spitzbergen: Bel Sound 5—12 fms (Torell) 13 sps. (one of a dark-brown colour) — Advent Bay, 20—40 fms, clay ($\frac{8}{8}$, 1868) 12 sps. (together with *C. scalpta* and *C. Reinhardti*). — Ice Fjord, 5 fms, clay, c. 20 sps. — Cross Bay, 60 fms, clay mixed with stones (1861) 2 sps. — Treurenberg Bay, 12—20 fms, sand and clay (1861) 5 sps.

Greenland: Posselt (1898), 70 fms.

General distribution:

Murman coast; White Sea (Pfeffer 1889). — Greenland (Mörch 1857). — North America south to Maine (Whiteaves 1901). Depths 5—70 fms. Clay, sand.

Cylichna Reinhardti (MÖLLER 1842).**Habitat:**

The North Sea: Bodybet, varying depths, sand and clay (v. Yhlen) 1 sh. (L. 3 mm.).

Kara Sea and Nova Zembla: Leche (1878), 4—32 fms, sand with clay.

North of Asia: Aurivillius (1887), 4—8 fms, sand, clay.

Spitzbergen: Bel Sound 5 sps. — Advent Bay, 20—40 fms, clay (⁸/₈ 1868) numerous sps. — Ice Fjord, 25—50 fms, clay (Torell) 7 sps. — Mossel Bay, 3 fms, fine sand (³¹/₁₂ 1872) 10 sps.; D:o 9½ fms, sand and shells (²¹/₃ 1873) 1 sp. (together with *Utriculus pertenuis*). — Swedish Foreland, King Charles' Land, 12—20 m, fine blackish gray clay (⁸/₈ 1898) 5 sps. (together with *C. scalpta*); D:o 78° 40' N. 27° 10' E. 14—16 m, fine blackish sand, stones, clay and algæ, bottom temp. + 0,9° C. (⁵/₈ 1898) 2 sps. (together with *C. alba* and *C. scalpta*).

Iceland: Hafsås, 40 fms, clay (Torell) 1 sp.

West Greenland: Posselt (1898) 5—250 fms, clay, stones.

Baffin Bay: 71° 42' N. 73° W., 15—30 m, sand with stones (1894) 3 sps. (together with *C. scalpta*).

East Greenland: Pendulum Islands 150 m, mud and stones 1 sp. (1900); 3 other local. 3—300 m, clay, sand, stones, Laminariæ (Mus. U.; Hägg 1905).

General distribution:

Norway: Finmarken (Schneider 1886). — Murman coast; White Sea (Pfeffer 1889; Herzenstein 1893). — Kara Sea (Collin 1887). — Barent's Sea (Knipowitsch 1901—1902). — Jan Mayen 10—20 fms (Friele 1879). — Spitzbergen (Krause 1892; Friele & Grieg 1901; Knipowitsch 1901—1902). — West Greenland (Möller 1842). — Labrador (Whiteaves 1901). — Behring Strait and Sea (Krause 1885). Depths 3—250 fms. Clay, sand, stones, algæ.

Cylichna scalpta (Reeve 1855).**Habitat:**

Norway: Finmarken: Kalfjord, 50—110 fms (Goës & Malmgren) 30 shs.; Bal-fjord, 60 fms, clay with sand (Goës & Malmgren) 5 shs.; Ulfsfjord (Goës & Malmgren) 5 shs.; D:o Kjosén 20 fms, clay (Goës & Malmgren) 8 shs.; Ramfjord 80—100 fms, clay (Goës & Malmgren) 1 sh.; Tromsö 20 fms (Goës & Malmgren) 2 shs.

Peninsula Kola: Jokonga Bay (Aug. 1877, Sandeberg) 1 sh. — Ora Fjord (Aug. 1877, Sandeberg) 2 sps.

Kara Sea: Leche (1878), 5—70 fms, clay and sand.

North of Siberia: Aurivillius (1887), 85 fms, clay.

Spitzbergen: Advent Bay, 20—40 fms, clay ($\frac{8}{8}$ 1868) 7 sps. (together with *C. Reinhardtii* and *C. insculpta*). — Swedish Foreland, King Charles' Land, 12—20 m, fine blackish gray clay ($\frac{8}{8}$ 1898) 1 sp.; D:o 78° 40' N. 27° 10' E., 14—16 m, fine blackish gray sand, stones, clay and algæ, bottom temp. + 0,9° C. ($\frac{5}{8}$ 1898) 2 sps. — N. of Hope Island, 77° 25' N. 27° 30' E., 160 m, yellowish brown clay, bottom temp. — 1,71° C. ($\frac{23}{8}$ 1898) 9 sps.

Greenland: Umanak, 250 fms, 1 sh. — 53° 34' N. 52° 1' W., 980 m, light gray clay with stones (1871) 1 sh.

Baffin Bay, 199 fms, clay and stones (1871) 1 sh. (L. 9,9 mm); D:o 227 m, hard gray clay (1871) 1 sh. (L. 4 mm); D:o 71° 42' N. 73° W., 15—30 m, sand with stones (1894) 3 sps.

General distribution:

Norway: Vadsö 50—60 fms; Kjosen 16—20 fms (G. O. Sars 1878); Tromsö (Aurivillius 1886); Varangerfjord (De Guerne 1886); Altenfjord 20 fms (Friele & Grieg 1901). — North Atlantic, 5 local. 20—127 fms (Friele & Grieg 1901). — White Sea (Wagner 1885). — Spitzbergen (Reeve 1855). — Greenland (Posselt 1898). — Behring Sea (Krause 1885). Depths 12—980 m. Clay, sand, stones, algæ.

Cylichna discus WATSON 1886.

Distribution: North Atlantic, 8 local. 412—1163 fms (Friele & Grieg 1901). — Coasts of Portugal 304—994 fms (Friele & Grieg 1901). — Culebra Island, West Indies, 390 fms (Watson 1886).

Diaphana hyalina (TURTON 1834).

Habitat:

The Baltic: Kiel (Möbius) 2 sps.

West coast of Sweden: Gullmarn, algæ (Lovén) c. 20 sps.; D:o 50—70 fms, clay (Lindahl) 1 sh. — Strömstad (Hanson) 1 sp. — Skagerrack, 336 fms (Lindahl) 3 shs.

Norway: 1 sh. (Düben) without definite locality.

Kara Sea: Leche (1878), 2—10 fms, sand, clay.

Greenland: Posselt (1898) 15—120 fms, clay, sand, stones, algæ. Further: Godthaab 64° 29' N., 80 fms sand (Amundsen 1863) 1 sp. — Norsouak, 5—20 fms (Amundsen) 1 sh.

General distribution:

Norway: Not uncommon along the whole south and west coast to Vadsö in shallow water, to 50 fms (G. O. Sars 1878). — North Atlantic 107 fms (Friele & Grieg 1901). — Murman coast, White Sea (Herzenstein 1893). — Franz-Joseph Land (Melville & Standen 1901). — Iceland (Mörch 1868; Verkrüzen 1872). — Greenland (Mörch

1857). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — Denmark: Skagen —Hven 10—20 fms (Mörch 1871; Petersen 1888). — Sweden: Göteborg (Malm 1858); Kullen, Skåne (Lilljeborg 1854). — Kiel (Meyer & Möbius 1865). — Heligoland (Heineke 1894). — France (Vayssière 1901). — Mediterranean (Carus 1889). — Madeira and Canaries (M'Andrew 1852). — Massachusetts and St. Lawrence (Gould & Binney 1870; Whiteaves 1901). Depths 5—336 fms. Clay, sand, algæ.

var. *spirata* n. n.

Habitat:

West coast of Sweden: Gullmarn (Lovén) 2 shs. — Nordkoster, west side, 26 fms, shells (Lovén & Torell) 1 sh.

Kara Sea: Leche (1878), together with the type.

Diaphana glacialis n. sp.

Pl. I figs. 1—5.

Habitat:

Spitzbergen: 1 sh. (Lovén) without definite locality. — Bel Sound 30—40 fms (Torell) 2 sps. — Cross Bay, 60 fms, clay with stones (1861) 1 sp. — Mossel Bay, 1½ fms, algæ (²⁴/₃ 1873) 2 sps. — Shoal Point 80° N. 18° E., 40 fms, fine clay (¹⁵/₇ 1861, Malmgren) 3 sps. — Kings Bay, 5—7 fms, clay with stones (¹⁷/₈ 1878) 1 sp. — Hackluyts Headland, 20 fms, red algæ (Torell) 4 sps.

Iceland: Beru Fjord, 15—30 fms, rocks (Torell) 1 sh. — D:o 15—30 fms, clay (Torell) 7 young sps.

Diaphana expansa (JEFFREYS 1864).

Habitat:

West coast of Sweden: Gullmarn, Bohuslän (Lovén) 1 sh.

Norway: Lofoten 200—300 fms, 1 sh.

Spitzbergen: 1 sp. (Lovén) without definite locality.

Greenland: Posselt (1898), 10—48 fms algæ, clay.

General distribution:

Norway: Lofoten 200—300 fms; Hasvig, W. Finnmarken; the whole west and south coast (G. O. Sars 1878); Husö 100 fms (Friele & Grieg 1901). — Shetland Islands; Bay of Biscay 667 m (Jeffreys 1864). — Ireland (Nichols 1899). — Mediterranean (Carus 1889). Depths 15—667 m. Clay.

Diaphana globosa (LOVÉN 1846).**Habitat:**

West coast of Sweden: Gullmarn, Bohuslän, 50—70 fms, clay 1 sh.; D:o, Kålviksberget (¹/₈ 1889, Aurivillius) 1 sh.

Norway: Dröbak, 60 fms, clay, 1 sh. — Lofoten 200—300 fms, 1 sh. — Karlsö, N. of Tromsö, 50 fms (⁹/₅ 1861, Malmgren) 1 sh.

Spitzbergen: 72° 10' N. 20° 37' E., 200—230 fms, clay (²¹/₇ 1868) 1 sh.

Greenland: Godthaab, 72 fms, sand (Amondsen) 1 sh.; Julianehaab (1883) 1 sh. (= *D. hiemalis* in Posselt 1898).

General distribution:

Norway: Kristianiafjorden to Vadsö 30—450 fms (G. O. Sars 1878); Nærstrand, Bukkenfjord (Grieg 1896). — Murman coast (Herzenstein 1893). — Jan Mayen (Friele 1879). — Behring Sea (Krause 1885). — Massachusetts (Whiteaves 1901). Depths 30—450 fms. Clay, sand.

Diaphana hiemalis (COUTHOUY 1839).**Habitat:**

Spitzbergen: N. of Hope Island, 77° 25' N. 27° 30' E., 160 m, yellowish brown clay, bottom temp. — 1,71° C. (²³/₆ 1898) 1 sh. (together with *Cylichna scalpta*).

Greenland: Posselt (1898), 25—70 fms, clay, sand, stones.

General distribution:

Norway: Vadsö 50—60 fms (G. O. Sars 1878). — North Atlantic, 9 local., 107—1004 fms (Friele & Grieg 1901, incl. *D. globosa*). — Murman coast (Herzenstein 1893). — Grand Manan; Bristol, Maine, N. America (Whiteaves 1901). Depths 50—1004 fms. Clay.

Diaphana densistriata (LECHE 1878).**Habitat:**

The White Sea: Sidorow Island (N. W. part of the White Sea) 20 fms, sand and mud (³/₈ 1895, Knipowitsch) 1 sh.

Kara Sea: Leche (1878), 9 fms, clay.

North of Siberia: Aurivillius (1887), 9—36 fms, clay, sand.

General distribution:

Murman coast: White Sea (Pfeffer 1889; Herzenstein 1893). Depths 9—36 fms. Clay, sand.

***Acera bullata* MÜLLER 1776.**

Pl. II figs. 1—3.

Habitat:

The Baltic: Kiel (Möbius) 8 sps. — Öresund, Råa, 8—10 fms (1896) 6 shs. — Landskrona—Malmö, 7—8 fms, clay and algæ (1878, Théel & Trybom) 3 sps. — S. E. of Hven, 9—10 fms, sand, clay and algæ (July 1878, Théel & Trybom) 25 sps.

West coast of Sweden: Skåne, Väderön near Svartskärsgrundet, 15 fms clay (²⁴/₇ 1902, Lönnberg) 1 sh. — Göteborg Skärgård 1 sp. (Malm; Mus. G.). — Bohuslän: ¹) Marstrandfjorden 10 fms, clay 1 sp.; ²) Gullmarn (Lovén) c. 50 sps.; D:o 20—30 fms, clay, 1 sp.; D:o Skårberget, 70 fms, clay (Aug. 1890) 16 sps.; ³) Väderöarna, 10 fms, sand and clay (Goës 1862) c. 30 sps.; ⁴) Dyngö, Fjällbacka, 1 fm, algæ (Goës 1862) c. 10 sps.; ⁵) Koster, shells, 10 sps.; D:o 5—130 fms, clay (Aug. 1865, Ljungman) 10 sps.; D:o, Sydkoster, 6 fms, sand, and 5 fms, algæ (July 1877, Bovallius & Théel) 7 and 2 sps. resp.; Koster 2 fms, 1 sp. (Mus. G.); ⁶) Lilla Askeröfjärden (Ljungman) 60 sps.; ⁷) Strömstad, near the surface of the water, on *Zostera* (Nov. 1891, Hanson) numerous sps.

Coasts of Norway: Kristianiafjorden (Asbjörnsen) 4 shs. — Fahrund 3 sps. (Mus. U.). — Bergen (Sars) 2 shs.; D:o numerous sps. (Mus. U.) — Hitterö, Kasvaag, on *Zostera* (1869) 7 sps. — Lurviksfjorden, 30 fms, clay, 6 sps. — Tanangerfjord, 12—25 fms, sand, 11 sps. — Moldöen 1 sp. — Rissen, Trondhjemsfjord, 1—10 m, mud (Östergren 1902) 5 sps. — Finmarken (Lovén) 2 sps.

? Spitzbergen: 1 sp. (Lovén) without definite locality.

General distribution:

Sweden: Kullen, Skåne (Lilljeborg 1854). — Skagen, Danish Sounds and Kiel (Möreh 1871; Petersen 1888). — Norway: south and west coast to Lofoten and Öxfjord, Finmarken, 5—10 fms (G. O. Sars); Porsangerfjord, littoral (Friele 1902); Altenfjord (Friele & Grieg 1901). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). — Madeira (Watson 1897). Depths to 130 fms. Clay, sand, algæ.

***Philine aperta* (LINNÉ 1766).**

Pl. III fig. 1.

Habitat:

The Baltic: Kiel (Möbius) 2 sps. — Hven, Öresund, the S. E. shore, 6 fms, fine sand and clay (1878, Théel & Trybom) 3 sps.

West coast of Sweden: Skåne, between Torekov and Arilds läge, 14 fms, clay (¹/₇ 1902, Lönnberg) 1 sp. — Gullmarn, numerous sps.; D:o 7—11 m (July 1902) 5 sps.; D:o Färlefjorden, 5—20 fms, c. 40 sps.; D:o Löken 20 fms 4 sps., and Skår 25 fms 1 sp. (Mus. G.); Marstrandfjorden, 10 fms clay, 3 sps.; Väderöarna, coral bottom,

14 sps.: Dyngö, Fjällbacka, 15 fms c. 50 sps.; Sydkoster (Eisen & Stuxberg) 2 sps. — Skagerrack 336 fms, clay (Lindahl) 1 sh.

Norway: Kristianiafjorden (Asbjörnsen) 3 sps. — Tananger, the harbour, 10 fms, sand, 2 sps. — Bergen 3—10 m, mud, 3 sps. (Mus. U.).

General distribution:

Sweden: Göteborg (Malm 1858); Kullen, Skåne (Lilljeborg 1854). — Kattegatt, Danish Sounds, Kiel (Petersen 1888, 1889; Meyer & Möbius 1865). — Norway: the south and west coast, not the arctic region, 5—30 fms (G. O. Sars 1878). — Selbjörnsfjord; Björnefjord; Hjeltefjord, very numerous; northern limit Bergen (Grieg 1896). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — Portugal (Nobre 1905). — Spain (Jeffreys 1867). — Mediterranean, Adriatic, Aegean (Carus 1889). — Canaries: Cap Verde Islands; Cape of Good Hope; Querimba Island and Inhambane, E. Africa (Pilsbry 1895). — Philippines (Nichols 1899). Depths to 50 fms. Clay, sand.

Philine vitrea M. Sars 1870.

Distribution: Kristianiafjorden 50—500 fms (M. Sars 1870, Metzger & Meyer 1875). — Lofoten 10—50 fms (G. O. Sars 1878).

Philine Ossian-Sarsi Friele 1877.

Habitat:

East Greenland: Mackenzie Bay 12—35 m, mud, 3 sps. (1900); 4 other local., up to 250 m, mud, stones (Mus. U.; Hägg 1905).

General distribution:

West of the norwegian coast: 64° 2' N. 5° 35' E., 911 m; 62° 44' N. 1° 48' E., 753 m; Jan Mayen — W. Finmarken, 71° 59' N. 11° 40' E., 2030 m (Friele & Grieg 1901). — East Greenland: Mackenzie Bay; Pendulum Islands; Walrus Island, 12—250 m, mud (Hägg 1905).

Philine finmarchica M. Sars 1858.

Habitat:

Norway: Lofoten 120 fms 1 sh.

Kara Sea: Leche (1878), incl. *Ph. quadrata* Wood, var *grandis* Leche, 10—125 fms, sand, clay, rocks.

General distribution:

Norway: Lofoten uncommon; Finmarken; Vadsö, numerous, 50—120 fms (G. O. Sars 1878); Alten 30 fms; Hammerfest 20 fms (Friele & Grieg 1901). — North At-

antic, 8 local. 20—649 fms (Friele & Grieg 1901); 66° 45' N. 15° 36' W., 200 m, bottom temp. — 1,15° C. (Friele 1902). — Murman coast and Sea (Pfeffer 1889). — Kara Sea (Collin 1887). — Cape Sable, Nova Scotia, 90 fms (Whiteaves 1901). Depths 20—649 fms.

Philine fragilis G. O. Sars 1878

(incl. *Ph. finmarchica* var. *intermedia* Knipowitsch 1901).

Habitat:

Spitzbergen: N. of Hope Island, 77° 25' N. 27° 30' E., 160 m, yellowish brown clay, bottom temp. — 1,71° C. (²³/₆ 1898) 1 sp. — King Charles' Land 78° 50' N. 27° 39' E., 20 m, fine reddish yellow clay, bottom temp. + 0,2° C. (¹²/₈ 1898) 8 sps.; D:o Bremer Sound 100—110 m, fine clay with great stones, bottom temp. — 1,45° C. (⁸/₈ 1898) c. 30 sps. (var. *interm.*); D:o 78° 50' N. 29° 39' E., 60—70 m, fine blackish gray clay (¹⁷/₈ 1898) 1 sp. — 80° 2' N. 15° 25' E., 95 fms (²/₉ 1872) 1 sp. — N. E. of Seven Islands, 81° 14' N. 22° 50' E., 150 m, gray clay, bottom temp. + 2° C. (²⁰/₈ 1898) c. 60 sps. (var. *interm.*).

Baffin Bay: 72° 8' N. 74° 20' W., 30—80 m, hard mud (1894) 5 sps.

General distribution:

Norway: Vadsö 100—120 fms (G. O. Sars 1878); Varangerfjord (De Guerne 1886). — North Atlantic, 4 local. 136—259 fms (Friele & Grieg 1901). — Spitzbergen (Knipowitsch 1901, var. *interm.*) — Cape Sable, Nova Scotia (Whiteaves 1901). Depths 20—461 m. Clay.

Philine cingulata G. O. Sars 1878.

Habitat:

Tromsö 1 sp., clay (Mus. U.: Aurivillius 1886).

General distribution:

Norway: Lofoten 120—200 fms (G. O. Sars 1878). — Cape Sable, Nova Scotia (Whiteaves 1901).

Philine scabra (Müller 1776)

(incl. var. *Lovéni* Malm 1853).

Pl. I figs. 6—9; Pl. III fig. 2.

Habitat:

The Baltic: Öresund, between Landskrona and Helsingborg (Rahm 1870) 2 sps.; D:o off Helsingborg, 18—20 fms (Théel & Trybom 1878) 3 sps.

West coast of Sweden: Skåne, Skelderviken, 25 m, clay (¹⁴/₇ 1897, Lönnberg) 2 sps.; D:o between Torekov and Arilds läge, 14 fms, clay and shells (¹/₇ 1902, Lönnberg) 10 sps.; D:o W. of Väderön, 14—15 fms, clay (¹⁷/₇ 1902, Lönnberg) 1 sp. —

Bohuslän: ¹) Gullmarn, numerous sps.; D:o Saltkällefjorden, 15—25 fms (Aug. 1894 Aurivillius) 1 sp.; D:o Flatholmen, 20—60 m (June 1903) 1 sp.; D:o Löken, 20 fms, 2 sps. (Mus. G.); ²) Väderöarna, clay with sand (Goës 1862) 7 shs.; D:o, 35 fms, 1 sp.; ³) Lindö, near Kosterrännan, 15—30 fms, 30 sps.; ⁴) Kosterrännan, 10—20 fms, sand and shells with clay (Ljungman) 2 shs.; D:o 55 fms, clay, 2 sps.; D:o ¼ mile W. of Koster, 18 fms, sand, 3 sps.; D:o, Nordkoster, off the islands, 10 fms, sand and stones (²/₃ 1865, Ljungman); ⁵) Svinesund, 30—70 fms, mud and stones (Lindahl) 9 sps. — Skagerrack: Torrboskär, Skagen, 19—22 fms, clay (Gunh. Exp. 1878) 1 sp.; Skagerrack 23 fms, sand and shells (Lindahl) 4 shs.; D:o 60 fms, sand and mud (Lindahl) 1 sh.; D:o 260 fms, clay (Lindahl) 1 sh.

Norway: Herfö, Svinesund, 16 fms, 7 sps. — Dröbak, 6—8 fms, coral bottom, 20 sps. — Hitterö, 20—30 fms, shells (Öberg) 2 shs. — Tanangerfjord, 25 fms, sand (Bovallius 1880) 2 sps. — Lurviksfjorden, 30 fms, clay, 1 sp. — Rundö, 50 fms, sand (1867, v. Yhlen) 1 sp. — Bodybet (v. Yhlen) 1 sp. — Oddevik, Sörfjorden, 55 fms, clay (1880) 4 sps. — Bergensfjord (Koren) 1 sh. — Rissen, Trondhjemsfjord, 15—30 m, sand mixed with clay (July 1902, Östergren) 9 sps. — Grötsund, Finmarken (Goës & Malmgren) 1 sh.

General distribution:

Sweden: Göteborg (Malm 1858); Bohuslän (Malm 1853, var. Lovéni); Kullen, Skåne (Lilljeborg 1851). — Norway: Hammerfest in 50—300 fms; the whole west and south coast (G. O. Sars 1878, incl. var. Lovéni); Tromsö, 20—50 fms (Aurivillius 1886); Nordfjord (Grieg 1897); Bodö; Sognefjord, 100 fms (Friele & Grieg 1901); Bukkenfjord; Strömfjord 100 fms (Grieg 1896, incl. var. Lovéni); Kristianiafjord (Asbjørnsen 1854); Husö 100 fms (Friele & Grieg 1901, var. Lovéni). — The whole Kattegatt and the danish coast to Hven (Petersen 1888, 1889); Nidingen (Petersen 1888, var. Lovéni). — British coasts (Jeffreys 1867). — Iceland (Mörch 1868; Verkrüzen 1872). — Helligoland (Heineke 1896). — France 1160 m (Vayssiére 1901). — Vigo, Spain (M'Andrew 1852). — Mediterranean and Aegean (Carus 1889). — Madeira (Watson 1897). Depths to 1160 m. Clay, sand, stones.

Philine catena (MONTAGU 1803).

Habitat:

West coast of Sweden: Gullmarn (Lovén) 4 shs. — Lindö, near Kosterrännan, 3 sps. — Koster 1 sh. — Styrö, Väderöarna, 30 fms 1 sp. — Skagerrack 336 fms, fine clay (Lindahl) 2 shs.

Norway: Dröbak (Lovén & Torell) 60 fms, 1 sh.

General distribution:

Norway: Lofoten, 30—60 fms; the whole west and south coast (G. O. Sars 1878). — Great Britain (Forbes & Hanley 1853; Jeffreys 1867). — France (Vayssiére 1901). — Mediterranean (Carus 1889). — Canaries (Pilsbry 1895). Depths up to 1019 m (Vayssiére 1901). Clay.

Philine punctata (CLARK 1828).**Habitat:**¹

Swedish west-coast: Bohuslän, Gullmarn, algæ and clay (Lovén) c. 25 sps.

General distribution:

Norway: Florö to Kristianiafjorden, 30—40 fms (G. O. Sars 1878). — British coasts (Jeffreys 1867; Forbes & Hanley 1853). — Greenland (Mörch 1857). — Denmark: Limfjorden; L. Belt (Petersen 1889). — France (Vayssièrè 1901). — Mediterranean and Aegean (Carus 1889).

Philine angulata JEFFREYS 1867.

Distribution: Norway: Aalesund 10—30 fms (G. O. Sars 1878). — England, Hebrides, Shetland (Jeffreys 1867). — Ireland (Nichols 1899). — Mediterranean (Carus 1889).

Philine sinuata STIMPSON 1850.

Distribution: Norway: Ulfstjörd, numerously, 10—15 fms; Tromsö (G. O. Sars 1878). — Scotland, Skye (Jeffreys 1867). — Boston, 6 fms, sand (Stimpson 1850).

Philine quadrata (WOOD 1839).**Habitat:**²

West coast of Sweden: Gullmarn, Lindholmen (Jan. 1890, Aurivillius) 1 sp. — Svinesund 30—70 fms, mud and stones (Lindahl) 1 sh. — Skagerrack 320—380 fms (Gunh. Exp.) fine brown clay, c. 30 sps.; D:o 60 fms (Lindahl) 6 sps.; D:o 150 fms clay (Lindahl) 5 shs.

Norway: Dröbak, clay (Lovén & Torell) 9 sps. — Finnmarken, Loppen (Lovén) 1 sh.; Grötsund, clay (Goës & Malmgren) 5 shs.; Karlsö, N. of Tromsö, 50 fms (Malmgren 1861) 4 shs.

Peninsula Kola: Ora Fjord (Aug. 1877, Sandeberg) 1 sh.

General distribution:

Norway: Kristianiafjorden (Asbjörnsen 1854); Nordfjord (Grieg 1897); Österfjord (Appellöf 1896); Sognefjord 100 fms (Friele & Grieg 1901); Varangerfjord (De Guerne 1886); the whole coast to Vadsö, 50—300 fms (G. O. Sars 1878). — North Atlantic 5 local, up to 649 fms (Friele & Grieg 1901); 64° 53' N. 10° W., 600 m, bottom temp. — 0,69° C. (Friele 1902). — Murman coast (Herzenstein 1893). — Greenland (Mörch 1857, Posselt 1898). — British coasts; Dogger bank (Jeffreys 1867). — Denmark: St. Middelgrund, Hellebæk, Hven (Mörch 1871, Petersen 1888). — Bay of Biscay 1019 m (Vayssièrè 1901). — Mediterranean (Carus 1889). — Azores 1073 fms (Watson 1886).

¹ The *Philine punctata*, mentioned by Leche 1878 (from Kara Sea), is *Ph. polaris*, which see.

² The *Philine quadrata* var. *grandis*, mentioned by Leche 1878 (from Kara Sea), is *Ph. finnarchica*, which see.

— St. Helena (Pilsbry 1895). — New England, Gulf of St. Lawrence; Halifax (Whiteaves 1901). Depths to 1073 fms. Mud, clay, stones.

Philine polaris AURIVILLIUS 1887.

Habitat:

North of Siberia: Aurivillius (1887), 3 fms, sand.
 The Kara Sea: Leche (1878, *Ph. punctata?*), 10 fms, sand.
 Spitzbergen: Shoal Point 80° N. 18° E., 40 fms, clay (¹⁵/₇ 1861, Malmgren) 2 shs. and rests of the animals.

Philine lima (BROWN 1827)

(incl. var. *frigida* KNIPOWITSCH 1896).

Habitat:

Norway: Finmarken: Ulfsfjord (Goës & Malmgren) 1 sh.; D:o Kjosens, clay (Goës & Malmgren) 1 sh.; Grötsund 60—80 fms, clay (Goës & Malmgren) 2 sps.; Karlsö, N. of Tromsö, 70 fms (1861, Malmgren) 1 sh. — Bergen (Sars) 1 sh.

The Kara Sea: Leche (1878), 20—26 fms, clay with sand.

Spitzbergen: 3 sps. (Lovén) without definite locality. — Sassen Bay, Ice Fjord, 10 fms, rocks and stones (Aug. 1861, Torell) 2 sps. — Cross Bay, 2—3 fms, clay mixed with sand (Koren) 3 sps. — N. E. of the Seven Islands, 81° 14' N. 22° 50' E., 150 m, gray clay, bottom temp. + 2° C. (²/₈ 1898) 1 sh. — Kings Bay, 20—25 fms, fine clay, 1 sh. (var. *frigida?*).

Iceland: Beru Fjord, 15—40 fms, clay (Torell) 13 sps.

Greenland: Posselt (1898), 100—199 fms, clay, shells. Further: Claushavn, 15—20 fms, sand and algæ (1870) 1 sp. — Umanak, 40—50 fms, clay (Koren) 1 sp.

Newfoundland: 46° 5' N. 51° 44' W., 56 fms, sand and shells (Ing. & Glad. ¹⁶/₈ 1871) 1 sp.

General distribution:

Norway: Vadsö 50—60 fms; Kjosens, Ulfsfjord 10—15 fms; Storeggen 400 fms (G. O. Sars 1878); Hammerfest 20 fms (Friele & Grieg 1901). — North Atlantic, 2 local. 127—148 fms (Friele & Grieg 1901). — Murman coast (Pfeffer 1889; Herzenstein 1893). — Kara Sea (Collin 1887). — White Sea (var. *frigida*, Knipowitsch 1896). — Franz-Joseph Land (Melville & Standen 1901). — Spitzbergen (Krause 1892, Knipowitsch 1901, 1902). — Massachusetts (Whiteaves 1901). Depths 2—400 fms. Clay, sand, stones.

Philine pruinosa (CLARK 1828).

Pl. III fig. 3.

Habitat:

West coast of Sweden: Gullmarn, Bohuslän (Lovén), 2 sps. — Svinesund 30—70 fms, stones and mud (Lindahl) 1 sh.

Norway: Kristianiafjorden (Asbjörnsen) 1 sh.

General distribution:

Norway: Lofoten 120—200 fms; the south coast (G. O. Sars 1878). — British coasts 18—70 fms (Jeffreys 1867). — Danish coast, Hellebæk (Petersen 1888). — Mediterranean and Adriatic (Carus 1889). Depths 18—200 fms. Mud, sand, stones.

Philine flexuosa M. Sars 1870.

Distribution: Norway: Kristianiafjorden 20—150 fms (M. Sars 1870). — Mediterranean (Carus 1889). — Yucatan Strait 640 fms (Pilsbry 1895).

Philine velutinoides G. O. Sars 1878.

Distribution: Lofoten, Norway, 120—200 fms (G. O. Sars 1878). — British coasts (Jeffreys 1864; *Ph. ventricosa*). — Mediterranean (Carus 1889; *Ph. ventricosa*).

Aplysia rosea RATHKE 1799.

Pl. II figs. 4—7.

Habitat:

West coast of Sweden: Skåne, between Väderön and Höghalla udde, 10 fms, algæ (¹⁶/₇ 1902, Lönnberg) 4 sps. — Bohuslän: Gullmarn e. 40 sps.; D:o Skårberget, 30 fms (1880) 1 sp.; D:o Flatholmen 20—25 m, algæ (July 1902) 3 sps.; D:o Smedjan, 50 m (June 1903) 2 sps.; D:o Råttholmen, 5 fms, 1 sp. (Mus. G.).

Norway: Haugesund 2 sps.; Christiansund (Mus. U.; Lilljeborg 1851).

General distribution:

Norway: Kristianiafjorden 5—20 fms (M. Sars 1870); Nordfjord, common (Grieg 1897); Bukkenfjord, common (Grieg 1896); Florö (Friele 1876). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — Skagen, Denmark (Petersen 1888). — Heligoland (van Haren Norman 1878, Heineke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889). — Canaries (M'Andrew 1852). Depths 5—30 fms. Algæ.

Dolabrifera Hollbölli BERGH 1872.

Distribution: Greenland (Bergh 1872). — D:o Egedesminde (Posselt 1898).

Pleurobranchus plumula (MONTAGU 1803).**Habitat:**

West coast of Sweden: Bohuslän, Kosterrännan (June 1893, Ekman) 1 sp.

General distribution:

Norway: The west coast 100—150 fms (G. O. Sars 1878); Nordfjord near Matrog, 60 fms (Grieg 1897). — British coasts (Forbes & Hanley 1853; Jeffreys 1867). — France (Vayssière 1901). — Mediterranean and Adriatic (Carus 1889). — Portugal (Nobre 1905). — Madeira (Watson 1897). — Azores (Bergh 1899). — Lower California (Bergh 1894). Depths to 150 fms. Stones, algæ.

Tylodina Duebenii LOVÉN 1846.**Habitat:**

Norway: Bergensfjord (Koren) 1 sp., 200 fms G. O. Sars 1868.

General distribution:

Denmark: Hellebæk (Petersen 1889).

Colpodaspis pusilla M. SARS 1870.

Distribution: Norway: Dröbak: Horten: 14—80 fms (M. Sars 1870). — Plymouth, England (Garstang 1894).

Colobocephalus costellatus M. SARS 1870.

Distribution: Norway: Dröbak: Vallö: 70—230 fms (M. Sars 1870).

Tritonia Hombergi CUVIER 1802

(incl. var. **alba** ALDER & HANCOCK 1855).

Pl. II fig. 18: Pl. III fig. 4.

Habitat:

West coast of Sweden: Skåne between Väderön and Höghalla udde, 10 fms, algæ (¹⁶/₇ 1902, Lönnberg) 1 sp. — Vinga, Göteborg Skärgård, sand, 1 sp. (Mus. G.). — Bohuslän: ¹) Gullmarn, numerous sps. (incl. var. alba); D:o 50 m, many young sps.; D:o N. of Flatholmen 18—27 m, algæ, 5 sps.; D:o Löken 22 fms, 3 sps. (Mus. G.); ²) Väderöarna (1881 and 1882) 3 sps.; ³) Lindö, near Kosterrännan, 30 fms (Olsson) 2 sps.; ⁴) Strömstad (1882, Hanson) 1 sp.; ⁵) Dyngö, Fjällbacka 1 sp.

England: Cullercoats (Alder) 1 sp. (var. alba).

Reef of Jutland 50—150 fms (1874) 1 sp.

General distribution:

West coast of Norway 10—20 fms (G. O. Sars 1878); Bukkenfjord 6 fms: Trondhjemsfjord (Grieg 1896); Kristianiafjorden 12 fms (Asbjørnsen 1854). — Denmark, Hellebæk (Mörch 1871). — British coasts (Forbes & Hanley 1853; Jeffreys 1869). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). Depths 6—150 fms. Algæ.

Tritonia psoloides AURIVILLIUS 1887.**Habitat:**

Behring Sea: 61° 45' N. 180° E., 75 fms, sand (Vega Exp. 1879) 1 sp. (Aurivillius 1887).

Tritonia ingolfiana BERGH 1899.

Distribution: 61° 44' N. 27° W., 485 fms, bottom temp. + 6,1° C., 1 sp. (Bergh 1899).

Tritonia plebeia JOHNSTON 1838.

Pl. III fig. 5.

Habitat:

West coast of Sweden: Bohuslän ¹⁾ Gullmarn c. 30 sps.; D:o N. of Flatholmen, 18—27 m, algæ, 2 sps.; D:o Gåsöfjord, 20 fms (May 1885, Aurivillius) 2 sps.; D:o 50 fms, 4 sps.; D:o Löken 25 fms, 2 sps. (Mus. G.); ²⁾ Kosterfjorden (July 1895, Aurivillius) 1 sp.

Norway: 1 sp. (Düben) without definite locality.

England: Cullercoats (Alder) 1 sp.

General distribution:

West coast of Norway 10—20 fms (G. O. Sars 1878); Hjeltefjord 70 fms-Skjærgøhavn 40—60 fms; Florö; Bergen; Kristianiafjorden 18 fms (Grieg 1896). — Denmark (Mörch 1871). — Heligoland (Metzger & Meyer 1875, Heincke 1894). — British coasts (Forbes & Hanley 1853; Jeffreys 1869). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — Aegean (Carus 1889). Depths to 60 fms. Algæ.

Tritonia lineata ALDER & HANCOCK 1848.

Distribution: West coast of Norway 10—30 fms (G. O. Sars 1878). — Denmark (Mörch 1871). — France (Vayssière 1901).

Atthila ingolfiana BERGH 1899.

Distribution: 62° N. 21° 36' W., 845 fms, bottom temp. + 3,3° C., 1 sp. (Bergh 1899).

Goniæolis typica M. Sars 1861.

Distribution: Norway, the west coast 50—70 fms (M. Sars 1871).

Goniæolis lobata n. sp.

Pl. I figs. 10—13; text-fig. 1.

Habitat:

Skagerrack 58° 12' N, 9° 28' E., 370 fms, fine brown clay (¹²/₇ 1879, Gunh. Exp.) 7 sps., with trawl.

Campaspe pusilla BERGH 1863.

Distribution: Greenland (Holböll) 1 sp. (Bergh 1863).

Campaspe major BERGH 1886.

Distribution: Vardö 3 sps. (Bergh 1886).

Dendronotus frondosus (ASCANIUS 1774)

(incl. var. **Dalli** BERGH 1879).

Pl. III fig. 18; cf. Pl. II fig. 11.

Habitat:

The Baltic: Kiel (Möbius) 4 sps.

West coast of Sweden: Bohuslän: ¹) Gullmarn numerous sps. (from 20—50 fms); D:o, 14—80 fms, 50 sps. (Mus. G.); ²) Väderöarna, the coral reef (Aug. 1886 and July 1891) 9 sps. — ³) Strömstad (Hanson 1890) 15 sps. — Skagerrack: in a driving barrel (June 1872, Lindahl) 2 sps. — Koster 18 fms 1 sp. (Mus. G.).

Norway: Bergen 1 sp. — Hågerskär (July 1880, Bovallius) 2 sps. — Trondhjemsfjord (Koren) 1 sp. — Finnmarken (Lovén) 5 sps.; D:o Grötsund (Okt. 1861, Goës & Malmgren) 14 sps.; D:o Tromsö (June 1864, Gillgren) 1 sp.; D:o Sörvær, numerous sps. (Mus. U.).

Reef of Jutland 100—170 fms (1878, Vestergren) 2 sps.

Peninsula Kola: Litza (Aug. 1877, Sandeberg) 1 sp. — Vaidaguba (July 1877, Sandeberg) 12 sps.; D:o, on the shore (Sept. 1877, Sandeberg) 20 sps. — Semi-Ostrowa, 60—63 fms (Aug. 1877, Sandeberg) 1 sp.

Kara Sea: Leehe (1878), 20 fms, stones mixed with sand.

North of Siberia and Behring Strait: Aurivillius (1887, incl. var. Dalli), 3—18 fms, sand, clay, stones.

Spitzbergen: Bel Sound, 3—6 fms, algæ (²³/₇ 1864, Malmgren) 1 sp. — Green Harbour, 5—20 fms, clay and algæ (³¹/₇ 1868) 1 sp. — Safe Haven (¹⁶/₇ 1864, Malmgren) 1 sp. — Smeerenberg, low water (²²/₈ 1868) 6 sps. — Liefde Bay, 5 fms, clay

with stones and algæ ($\frac{3}{9}$ 1868) 1 sp. — Shoal Point, 25—30 fms, clay (1861) 1 sp. — King Charles' Land 78° 50' N. 27° 39' E., 20 m, fine reddish yellow clay, bottom temp. + 0.2° C. ($\frac{12}{8}$ 1898) 1 sp.; D:o Bremer Sound 100—110 m, fine clay with great stones, bottom temp. — 1.45° C. ($\frac{8}{8}$ 1898) 2 sps. — Walter Thymen Strait, 30—40 fms, zoophytes (1864, Malmgren) 1 sp.

West of Spitzbergen: 1 sp., 100 m (Mus. U., Hägg 1905).

Greenland: Julianehaab 5—10 fms, mud (Amondson 1865) 1 sp. — Godthaab, 100 fms, shells (Amondson) 1 sp. — Umanak 35—45 fms, rocks (Torell) 8 sps. — Sukkertoppen 5—10 fms, Laminariæ (1870) 8 sps. — Holsteinborg (1871) 1 fm, 4 sps. — Egedesminde, 15 fms, rocks (Torell) 1 sp. — Godhavn (1871) 1 sp.; D:o 10—15 fms, mud (Aug. 1860, Torell) 1 sp.; D:o (Amondson) 2 sps. — Claushavn, 5—10 fms (1870) 17 sps. — Disko, Nordfjord, 27 fms, hard dark-gray clay (1871) 1 sp. — Ritenbenk, 5—15 fms, algæ (1870) 3 sps. — N. W. of Cape York, 5—12 fms, clay mixed with sand (1883) 5 sps. — Pröven, on Laminariæ (Torell) 3 sps.

Davis Strait 64° 56' N. 66° 18' W., 15—30 m, sand (1894) 7 sps.

Baffin Bay 73° 48' N. 80° 30' W., 14—27 m, deep mud (1894) 2 sps.

General distribution:

Norway: the south and west coast to Finmarken, 100 fms (G. O. Sars 1878); Vadsö (Norman 1902). — Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Wagner 1885). — Kara Sea (Collin 1887). — Franz-Joseph Land (Knipowitsch 1901). — Behring Sea (Krause 1885; Bergh 1879, var. Dalli). — Spitzbergen (Knipowitsch 1901, 1902, var. Dalli). — Bear Island (Friele & Grieg 1901). — Greenland (Posselt 1898). — Iceland (Mörch 1868; Johansen 1902). — Faroe Islands (Mörch 1867). — British coasts (Forbes & Hanley 1853; Jeffreys 1869). — Denmark (Mörch 1871). — L. Belt; Kiel (Meyer & Möbius 1865). — German North Sea-coast (Metzger & Meyer 1875). — Heligoland (Heincke 1894). — Holland (van Haren Norman 1878). — Belgium (Maitland 1897). — France (Vayssièrè 1901). — Labrador and New England to Cape Cod (Whiteaves 1901). — Bare Island, Pacific (Bergh 1900). Depths to 300 m. Clay, sand, algæ.

Dendronotus robustus VERRILL 1870.

Habitat:

Bohuslän, Sweden: Gullmarn (1893, 1896) 4 sps.; D:o, 40—50 fms, clay (July 1889, Aurivillius) 10 sps.; D:o Saltskällefjorden (Aug. 1894) 4 sps.; D:o Flatholmen (Aug. 1891) 1 sp.; D:o Skårberget (1895) 9 sps.

Spitzbergen: Bel Sound (Torell) 1 sp.

Greenland: The Fjord off Fredriksdal, 15—20 fms, stones and algæ (1883) 3 sps.

General distribution:

Norway: Lofoten, Vadsö 60—100 fms (G. O. Sars 1878); Tromsö 30—40 fms (Krause 1895); Porsangerfjord 90—100 m (Friele 1902); Trondhjemsfjord (Friele & Grieg 1901). — W. of Bear Island, 123 fms (Friele & Grieg 1901). — Iceland (Bergh 1899). — Greenland (Posselt 1898). — Grand Manan; Nova Scotia (Whiteaves 1901). Depths 15—123 fms.

***Doridoxa ingolfiana* BERGH 1899.**

Distribution: 65° 17' N. 54° 17' W., 55 fms, 1 sp.: ? var. 67° 19' N. 15° 22' W., 293 fms, bottom temp. + 0.5° C. 1 sp. (Bergh 1899).

***Bathydoris ingolfiana* BERGH 1899.**

Distribution: 59° 12' N. 51° 8' W. (Cape Farvel) 1870 fms, bottom temp. + 1.3° C. 1 sp. (Bergh 1899).

***Archidoris tuberculata* (CUVIER 1804).**

Pl. II fig. 8; Pl. III fig. 6.

Habitat:

Kattegatt: Anholt, 1 sp. (Mus. G.).

West coast of Sweden: ¹) Gullmarn, Bohuslän, numerous sps.; D:o Blåbergs-holmen, 70 m, algæ (³/_s 1905) 1 sp.; D:o Gåsö 1 sp. (Mus. G.); ²) Uddevallafjärden, rocks (Jacobsen) 1 sp.; ³) Kummelbanken (Tullberg 1900) 1 sp.; ⁴) Väderöarna, c. 20 sps.; ⁵) Dyngö, Fjällbacka (Goës) 3 sps.; ⁶) Lindö, near Kosterrännan, 30 fms (Olsson) 1 sp.; ⁷) Andsö holmar (July 1869) 4 sps.; ⁸) Nordkoster 1 sp.; ⁹) Strömstadsfjärden (May 1889, Hanson) 1 sp., — Skagerrack: Nidingarna, Skagen (Théel) 1 sp. (L. 50 mm. contracted).

Norway: 5 sps. without definite locality.

England: Cullercoats (Alder) 2 sps.

General distribution:

Norway: Lofoten to 100 fms; west and south coast (G. O. Sars 1878). — Faroe Islands (Mörch 1867). — Iceland (Johansen 1902). — British coasts (Forbes & Hanley 1853; Jeffreys 1869). — Denmark, Hellebæk (Mörch 1871). — Heligoland (van Haren Norman 1878; Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889). — N. E. of Cape Delgado, Gulf of Mexico (Bergh 1894). — Bare Island, Pacific (Bergh 1900). Depths 2—100 fms. Algæ.

***Archidoris nobilis* (LOVÉN manuscr.)**

Pl. I figs. 14—18.

Habitat:

Bohuslän: Gullmarn, Skårberget (Lovén) 1 sp.; D:o 1 sp.; (L. 25 mm); Väderöarna (July 1895, Anrivillius) coral bottom, 1 sp.

Jorunna Johnstoni (Alder & Hancock 1845^a).**Habitat:**

Bohuslän: Gullmarn 7 sps.; D:o Skår (Lovén) 4 sps.; D:o Alsbäck, Skårberget 70 fms (Aug. 1890) 1 sp.; D:o between Löken and Svenningeskär (Lovén) 2 sps. — Lindö, near Kosterrännan, 30 fms (Olsson) 3 sps. — Andsöholmar 10—30 fms (Olsson) 2 sps.

Norway: Bejan, Trondhjem (Boeck) 1 sp.; Trondhjemsfjord (Koren) 1 sp.

General distribution:

West coast of Norway 10—12 fms (G. O. Sars 1878); Kristianiafjorden (M. Sars 1870). — English and Scottish coasts, Ireland (Jeffreys 1869). — Denmark (Mörch 1871). — Heligoland (Heincke 1894). — France (Vayssiére 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889). Depths 10—70 fms.

Aldisa zetlandica (ALDER & HANCOCK 1855).**Habitat:**

Norway: Finnmarken. Kvænangen 20—40 fms 1 sp. (Mus. U.: Aurivillius 1886).

General distribution:

Norway: Lofoten to 200 fms; Finnmarken; Bergen (G. O. Sars 1878); Trondhjemsfjord 200—250 ms (Norman 1893); ? Herlöfjorden (Appellöf 1894). — North Atlantic 63° 33' N. 20° 5' W., 393 fms, bottom temp. + 3,8° C. 1 sp. (Bergh 1899). — Shetland 40 fms (Jeffreys 1869). — Azores (Bergh 1899).

Platydorís planata (ALDER & HANCOCK 1846^a).

Pl. I figs. 19—20.

Habitat:

Bohuslän: Kristineberg, Gullmarn (Aug. 1891, Carlgren) 1 sp., with fertilized eggs (L. 42 mm); Gullmarn 2 sps. (L. 22 and 20 mm); Väderöarna 1 sp. (L. 35 mm); Andsöholmar 1 sp. (L. 20 mm).

General distribution:

British and Scottish coasts (Alder & Hancock 1862; Jeffreys 1869); Plymouth (Garstang 1890). — France (Vayssiére 1901). — Portugal (Nobre 1905). — If this species is identical with *P. testudinaria* (Risso 1826), which is supposed by Alder & Hancock (1862), it occurs also in the Mediterranean.

Rostanga coccinea (Forbes 1843).**Habitat:**

England: Cornwall (Alder) 1 sp.

General distribution:

West coast of Norway 5–10 fms (G. O. Sars 1878). — Faroe Islands (Mörch 1867). — British coasts (Jeffreys 1869); Plymouth (Garstang 1890). — Danish coast, Skagerrack (Mörch 1871). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic, Aegean (Carus 1889). Under stones between tide-marks (Jeffreys 1869).

***Cadlina obvelata* (MÜLLER 1776).**

Pl. III figs. 7–9.

Habitat:

West coast of Sweden: Skåne, between Väderön and Torekov, 8 fms sand and algæ (⁷/₇ 1902, Lönnberg) 1 sp.; between Väderön and Höghalla udde, 8 fms, algæ (¹⁶/₇ 1902, Lönnberg) 1 sp.; Hallands Väderö 6–7 fms, algæ (¹/₇ 1902, Lönnberg) 1 sp.; N. of Vinga skär, Halland, 8 fms (²⁵/₇ 1902, Lönnberg) 2 sps. — Bohuslän: ¹) Gullmarn numerous sps.; D:o Stångholmen, red algæ (Jan. 1895, Aurivillius) 7 sps.; D:o Löken, 20 fms 1 sp. (Mus. G.); ²) Väderöarna (Aurivillius and Askland) 8 sps.; ³) Andsöholmar (Olsson) 1 sp.; ⁴) Dyngö, Fjällbacka, 8 fms, 3 sps.; ⁵) Styrö, 10 fms (Olsson) 1 sp.; ⁶) Lindö near Kosterrännan 30 fms (Olsson) 1 sp.

Norway: Trondhjemsfjord (Koren) 1 sp.

Kara Sea: Leche (1878), 5–10 fms, Lithothamnium.

Spitzbergen: 1 sp. (Torell) without definite locality. — Bel Sound, 60 fms, rocks (Torell) 1 sp. — Liefde Bay, 5 fms, algæ and clay with stones (³/₉ 1868) 2 sps. — Waygats Islands 70° 20' N. 19° E., 30 fms, rocks (¹⁶/₈ 1861, Malmgren) 1 sp. — Ice Fjord, Green Harbour, 40 fms (Lovén 1837) 2 sps.¹

Iceland: Beru Fjord, 9–13 fms (Torell) 1 sp.; Reikjavik (Torell) 8 fms, stones, 3 sps.

Greenland: Posselt (1898) 20–60 fms. Further: Egedesminde 30–40 fms, stones (1870) 1 sp. — Jacobshavn, 35 fms, clay (⁷/₈ 1870 Öberg) 1 sp.

General distribution:

Norway: Lofoten; Vardö; the whole west and south coast 10–30 fms (G. O. Sars 1878). — Murman coast, White Sea (Pfeffer 1889; Herzenstein 1893). — Spitzbergen 30–40 fms (Mörch 1869; Krause 1892; Knipowitsch 1901, 1902). — North Atlantic 64° 54' N. 55° 10' W., 393 fms, bottom temp. + 3,8° C. (Bergh 1899). — Greenland (Mörch 1857). — Iceland (Mörch 1868). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel (Meyer & Möbius 1865). — France (Vayssière 1901). — Mediterranean and Adriatic (Carus 1889). — E. N. E. of Cape Delgado, Gulf of Mexico (Bergh 1894). Depths 5–393 fms. Clay, stones, algæ.

¹ The radulae of these last specimens contain a less number of teeth than usual (13·1·13).

Cadlina glabra (FRIELE & HANSEN 1876).**Habitat:**

Bohuslän (Lovén) 1 sp. (= *Doris lævis* Müller of Lovén 1846).

General distribution:

Florö, W. Norway, 200 fms (Friele & Hansen 1876).

Triopella incisa (M. SARS 1872).

Distribution: Norway, Lofoten 120—200 fms; Christiansund (G. O. Sars 1878); Trondhjemsfjord 250—300 fms (Norman 1893).

Aegires punctilucens (D'ORBIGNY 1837).

Pl. II figs. 9—10.

Habitat:

Bohuslän (Lovén) 9 sps.; D:o Gullmarn, Gåsö 16 fms 1 sp. (Mus. G.).

General distribution:

Norway: Fejde, West Norway, on *Laminariæ* 15—35 m (Friele & Hansen 1876); Husö 40—60 fms (Friele & Grieg 1901). — British coasts (Jeffreys 1869; McIntosh 1874). — France (Vayssièrè 1901). — Mediterranean? (Carus 1889). Under stones among rocks near low-water mark (Jeffreys 1869).

Triopa clavigera (MÜLLER 1776).

Pl. III fig. 10.

Habitat:

West coast of Sweden: Bohuslän, ¹) Gullmarn c. 45 sps.; D:o 20 fms (May 1895, Aurivillius) 1 sp.; D:o Grundsund (1888) 5 sps.; D:o Kristineberg 2 sps. (Mus. U.). — ²) Lindö, near Kosterrännan, 30 fms (Olsson) 1 sp. — ³) Väderöarna (Aug. 1887) 6 sps.; D:o, coral bottom (July 1890) 1 sp. — ⁴) Kosterfjorden (July 1895) 2 sps.

Norway: Andabelö on *Laminariæ* (Öberg) 3 sps.; Stavanger 2 sps.; Hardanger 10—20 fms (Mus. U.).

General distribution:

Norway: the west coast 5—20 fms (G. O. Sars 1878; Grieg 1896); Christiansund (Lilljeborg 1851). — British coasts (Jeffreys 1869; McIntosh 1874). — Heligoland (Heincke 1896). — Holland (Hoek 1878). — Belgium (Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). Depths to 30 fms. Algæ.

Issa lacera (ÅBILDGAARD 1806).**Habitat:**

Norway: Molköesund, Hammerfest, 15 fms (Lovén) 1 sp.
Greenland: Posselt (1898).

General distribution:

Norway: Bodö—Vadsö, 30—100 fms, stones (G. O. Sars 1878); Ringvatsö, Tromsö, 10—12 fms (Krause 1895). — N. of Norway 71° 5' N. 26° 16' 5" E., 300 m, bottom temp. + 3,93° C. (Friele 1902). — Murman coast (Pfeffer 1889; Herzenstein 1893). — Nova Scotia; Cape Code (Whiteaves 1901).

Issa villosa n. sp.

Pl. I fig. 21.

Habitat:

Spitzbergen: Bel Sound, 16—20 fms (Torell) 7 sps.

Thecacera virescens ALDER & HANCOCK 1855.

Distribution: Norway: Hardanger (G. O. Sars 1878). — British coasts (Jeffreys 1869).

Palio Lessoni (D'ORBIGNY 1837).

Pl. II fig. 16.

Habitat:

The Baltic: Kiel (Möbius) 1 sp. and 5 sps. (*P. ocellata*).

West coast of Sweden: Bohuslän, Gullmarn (Lovén) 1 sp.; D:o Löken 22 fms 1 sp. (Mus. G.); D:o Kristineberg 1 sp. (Mus. U.); Nötholmen, Strömstad (Febr. 1890, Hanson) 1 sp.; Dyngö? (Goës) 1 sp.

Norway: 1 sp. (*P. dubia*) without definite locality (Kröyer).

Greenland: Posselt (1898, *P. Holbölli*) 20 fms, rocks.

General distribution:

Norway: the west coast (*P. dubia* and *ocellata*); Aalesund (G. O. Sars 1878); Finmarken (Lovén 1846, *P. pudica*); Kvænangen, Tromsö 15 fms (Krause 1895). — Murman coast (Pfeffer 1889, *P. Holbölli*). — White Sea (Herzenstein 1893, *P. Holbölli*). — Greenland (Mörch 1857, *P. Holbölli*). — Iceland (Mörch 1868, *P. ocellata*). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel; Heligoland (Meyer & Möbius 1865, *P. ocellata*). — Travemünde (Lenz 1875, *P. ocellata*). — Heligoland (Heincke 1894). — France (Vayssière 1901). — Adriatic (Carus 1889). — East Canada (Whiteaves 1901). From tide-marks to the coralline zone (Jeffreys 1869).

***Polycera quadrilineata* (MÜLLER 1776).**

Pl. III figs. 11—14.

Habitat:

The Baltic: Kiel (Möbius) 2 sps.

West coast of Sweden: Laholmsbukten, Halland, 8 fms, hard clay (¹⁰/₆ 1902, Lönnberg) 1 sp. — Bohuslän: ¹) Gullmarn c. 85 sps.; D:o 60—70 m (June 1902) 1 sp.; D:o among Laminariæ (winter 1895, Aurivillius) 10 sps.; D:o Gåsö (⁶/₆ 1905) 4 sps.; D:o Gåsöfjord, 5—10 fms (May 1895, Aurivillius) 1 sp.; ²) Stigfjorden c. 50 sps.; ³) N. of Styrso 10—20 fms (Aug. 1889) c. 15 sps.; ⁴) Väderöarna (1887, Askund) 10 sps.; ⁵) Dyngö, Fjällbacka c. 30 sps.; ⁶) W. of Koster, inside the rocks, 2—5 fms (Ljungman) 20 sps.; ⁷) Skarfön, Strömstad (1890, Hanson) c. 20 sps.

Norway: 5 sps. (Düben) without definite locality; Trondhjemsfjorden (Koren) 2 sps.; Bergen, Glæsvær 10 fms, 1 sp. (Mus. U.).

General distribution:

Norway: Lofoten 10—20 fms; the whole west and south coast (G. O. Sars 1878). — British coasts (Jeffreys 1869). — Norway: Christiansund (Lilljeborg 1851). — Denmark (Mörch 1871). — Kiel (Meyer & Möbius 1865). — Heligoland (Metzger & Meyer 1875, Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889). Depths to 70 m. Algæ.

Doridunculus echinulatus* G. O. Sars 1878.*Distribution:** Risvær, Lofoten, 80—100 fms (G. O. Sars 1878).***Doridunculus pentabanchus* n. sp.**

Pl. I figs. 22—23.

Habitat:

Skagerrack 58° 2' N. 9° 4' E., 335 fms, fine brown clay (¹⁶/₇ 1879, Gunh. Exp.) 1 sp. with trawl.

***Acanthodoris pilosa* (MÜLLER 1776).**

Pl. II figs. 13—15.

Habitat:

The Baltic: Kiel (Möbius) 1 sp.

West coast of Sweden: Skåne: Kullen (Lilljeborg) 1 sp.: between Kullen and Väderön, 13½ fms, shells (¹⁸/₇ 1902 Lönnberg) 2 sps.; between Kullen and Vinga skär, 14 fms, shells (³/₇ 1902, Lönnberg) 1 sp.; between Torekov and Arilds läge, 14 fms,

shells and clay (¹/₇ 1902, Lönnberg) 6 sps. — Göteborg Skärgård 2 sps. (Mus. G.). — Bohuslän: ¹) Gullmarn, numerous sps.; D:o among *Zostera* (Aug. 1895) 3 sps.; D:o Gåsö 24 fms 1 sp. (Mus. G.); ²) Väderöarna (Aug. 1881, Svedéus) 4 sps.; ³) Lindö, near Kosterrännan, 30 fms 1 sp.; ⁴) Kistersundet 1 sp.; ⁵) Styrö, Koster (Aug. 1886) 20 sps.; ⁶) Strömstadsfjorden (1890, Hanson) 3 sps.; D:o, 1 m (Apr. 1892, Hanson) 1 sp.

Norway: Reisen, Finmarken (Nylander & Gadd) 2 sps.; Tromsö, ebb (Malmgren 1864) 16 sps.; D:o 2 sps. (Mus. U.), 1 sp. (Krøyer) without definite locality (= *Doris tomentosa* Lovén 1846).

Peninsula Kola: Waidaguba, on the shore (Sept. 1877, Sandeberg) 1 sp.

var. **fusca** (LOVÉN 1846).

Pl. II fig. 12.

Habitat:

West coast of Sweden: Gullmarn (Lovén) 1 sp.; D:o between Grundsund and Löken (July 1888, Askund) 3 sps.

Norway: Hammerfest (Lovén) 1 sp.

General distribution (type and var.):

Norway: Lofoten—Vadsö; west and south coast, 10 fms (G. O. Sars 1878). — Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Herzenstein 1893). — Faroe Islands (Mörch 1867). — Iceland (Mörch 1868; Johansen 1902). — Greenland (Mörch 1857). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel (Meyer & Möbius 1865). — Travemünde (Lenz 1875). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — Belgium (Pelseneer 1882). — France (Vayssièrè 1901). — Aegean (Carus 1889). — N. America, Charlestown (Gould & Binney 1870). Depths: from tide-mark to 40 fms. Algæ.

Acanthodoris sibirica (AURIVILLIUS 1887).

Habitat:

North of Asia: Aurivillius (1887), 3 localities, 5—12 fms, clay, sand and stones.

Spitzbergen: Bel Sound, 30—35 fms (Torell) 1 sp. (L. 20 mm). — Cloven Cliff, 20 fms (Torell) 2 sps. (L. 23—30 mm).

General distribution:

Spitzbergen: Deevie Bay (Krause 1892). — Stor Fjord (Knipowitsch 1901).

Adalaria proxima (ALDER & HANCOCK 1845^a).

Habitat:

The Baltic: Kiel (Möbius) 3 sps.

West coast of Sweden: Gullmarn (Mars 1902, Lönnberg) 1 sp.: D:o Grundsund (Nov. 1888, Lönnberg) 1 sp.: D:o (Jan. 1890, Wirén) 1 sp.: D:o (winter 1895, Aurivillius) 5 sps.: D:o Löken 8 fms 3 sps. (Mus. G.). — Väderöarna (Aug. 1887, Asklund) 3 sps. — Gullmarn (Lovén) 12 sps. (= *Doris echinata* Lovén 1846).

Norway: Andabelö, Laminariæ and rocks, 4 sps. — Haugesund 27 fms, Laminariæ (1880) 30 sps.

General distribution:

Baltic: Kiel and Bornholm (Meyer & Möbius 1865). — Norway: Lofoten; the west coast, 10 fms (G. O. Sars 1878). — Murman coast and White Sea (Pfeffer 1889; Herzenstein 1893). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Heligoland (Heineke 1894). — Massachusetts (Verrill 1882). Depths to about 30 fms. Rocks and algæ.

Adalaria Lovéni (ALDER & HANCOCK 1862).

Habitat:

Bohuslän: Flatholmen, by Grundsund, Gullmarn (July 1888, Asklund) 1 sp. — Väderöarna (1887, Karlson) 2 sps.

General distribution:

Norway: Bergen 10—20 fms (Friele 1876); west coast (Grieg 1897). — British coast (Jeffreys 1869).

Lamellidoris bilamellata (LINNÉ 1766).

Habitat:

West coast of Sweden: Gullmarn, Bohuslän, clay (July 1896) 3 sps.; D:o (winter 1895, Aurivillius) 1 sp.: D:o Smedjan (Mars 1902, Lönnberg) 4 sps.; D:o Flatholmen (1886) 3 sps.; D:o Fiskebäckskil, the harbour, »on a ship together with *Mytilus* and *Balani*» (Mars 1895, Aurivillius) 3 sps.; D:o Löken, 20 fms, 2 sps. (Mus. G.); D:o Kristineberg 4 sps. (Mus. U.).

Norway: Sörvær, Finmarken, numerous sps. (Mus. U.).

England (Alder) 2 sps.

Greenland: Egedesminde 30—40 fms (¹⁸/₇ 1870, Öberg) 1 sp. — 1 sp. (Holst 1880) without definite locality.

East Greenland: Franz-Joseph Fiord 250 m 1 sp. (Mus. U., Hägg 1905).¹

General distribution:

Norway: the south and west coast to Tromsö and Öxfjord, West Finmarken, 10 fms (G. O. Sars 1878); Vadsö (Norman 1902). — Murman coast (Pfeffer 1889;

¹ Hägg's specimen from Pendulum Islands seems to be a *Cadlina*.

Herzenstein 1893). — Iceland 2—3 m (Johansen 1902; Möreh 1868; Verkrüzen 1872). — Denmark (Mörch 1871). — Heligoland (Heineke 1894). — Belgium (Pelseneer 1882). — British coasts (Jeffreys 1869). — France (Vayssiére 1901). — New England to Cape Cod (Gould & Binney 1870). — Davis Strait (Jeffreys 1887). — Depths 2—250 m (Hägg 1905). Rocks.

var. *liturata* (MÖLLER 1842).

Habitat:

Greenland: Posselt (1898, *L. acutinsula*) 30—35 fms, clay, stones. Further: Egedesminde, 15 fms, rocks (Torell) 1 sp.; D:o 30—40 fms, rocks (¹/₇ 1870, Öberg) 1 sp.

General distribution:

Greenland (Mörch 1857; Posselt 1898).

Lamellidoris muricata (MÜLLER 1776)

(incl. *L. aspera* [ALDER & HANCOCK 1842]).

Habitat:

The Baltic: Kiel (Möbius) 4 sps.

West coast of Sweden: Skåne, Kullen (Lilljeborg) 1 sp.; between Torekov and Arilds läge, 14 fms, clay with shells and red algæ (¹/₇ 1902, Lönnberg) 2 sps. — Halland, Laholmsbukten 9 fms, algæ (¹/₆ 1903, Lönnberg) 4 sps. — Bohuslän: ¹) Gullmarn, shallow water, numerous sps. (mostly young); D:o among Florideæ (1885) c. 30 young sps.; D:o Stångholmen 6 fms 2 sps. (*L. aspera*; Mus. G.); ²) Strömstad, Skarfön (1890, Hanson) 20 sps.; D:o 1—2 fms (Apr. 1880, Hanson) c. 15 sps.; ³) Långö, Strömstad (¹/₄ 1888, Hanson) 9 sps.; ⁴) Väderöarna (Aug. 1887, Askund) numerous sps.

Norway: 15 sps. (Düben) and 4 sps. (Kröyer) without definite localities. — Christiansund 1 sp. (Mus. U.); Tromsö 4 sps. (Mus. U.).

England, Cullercoats (Alder) 5 sps. (*L. aspera*).

General distribution:

Norway: south and west coast, 10 fms; Nordkap (G. O. Sars 1878); Vadsö (Norman 1902). — Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Herzenstein 1893). — Faroe Islands (Mörch 1867). — British coasts (Jeffreys 1869). — Kiel and east Baltic (Meyer & Möbius 1865). — Travemünde (Lenz 1875). — Denmark (Mörch 1871). — Heligoland (Heineke 1894). — France (Vayssiére 1901). — North America: Halifax, Nova Scotia (Verrill 1882). — Norwegian Islands, Spitzbergen, 10 fms (Friele & Grieg 1901). — Distribution to Cape Finisterre (Friele & Grieg 1901).

Lamellidoris diaphana (ALDER & HANCOCK 1845^b).**Habitat:**

West coast of Sweden: Bohuslän, Gullmarn (Lovén) 2 sps.; D:o (winter 1895, Aurivillius) c. 30 sps.

General distribution:

British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Heligoland (Heineke 1894).

Lamellidoris sparsa (ALDER & HANCOCK 1846^b).

Distribution: Faroe Islands (Mörch 1867). — England, Cullercoats (Alder & Hancock 1846^b).

Lamellidoris pusilla (ALDER & HANCOCK 1845^b).**Habitat:**

Bohuslän: Kosterfjorden (July 1895, Aurivillius) 1 sp.

General distribution:

Norway: the west coast and Kristianiafjorden to 10 fms (G. O. Sars 1878); Husö 40—60 fms (Friele & Grieg 1901). — British coasts (Jeffreys 1869).

Lamellidoris inconspicua (ALDER & HANCOCK 1845^b).**Habitat:**

Bohuslän: ? Gullmarn 1 sp.; D:o Gåsöfjord (May 1895, Aurivillius) 1 sp.

General distribution:

Iceland (Mörch 1868). — British coasts (Jeffreys 1869). — France (Vayssiére 1901).

Lamellidoris luteocincta (M. SARS 1870).

Distribution: Kristianiafjorden, Norway 10—20 fms (M. Sars 1870).

Lamellidoris? acutiuscula (MÖLLER 1842).

Distribution: Greenland (Möller 1842; Posselt 1898).

Goniodoris nodosa (MONTAGU 1808).

Pl. III fig. 15.

Habitat:

Bohuslän: Gullmarn 13 sps.; D:o Kristineberg (winter 1895) 6 sps.; D:o Stångholmen (May 1888, Askhund) 5 sps.; D:o Löken 5—22 fms stones, and Gåsö 30 fms

3 sps. (Mus. G.). — Dyngö, Fjällbacka (Hanson) 1 sp. — Väderöarna, coral bottom, 40—50 fms (July 1887) 1 sp. — Kosterfjorden (July 1895, Aurivillius) 1 sp.

General distribution:

Norway: the west coast 5—20 fms (G. O. Sars 1878). — British coasts (Jeffreys 1869). — Sweden: ? Kullen (Lilljeborg 1851). — Denmark (Mörch 1871). — Heligoland (Heincke 1894). — France (Vayssièrè 1901). Depths to 50 fms.

Goniodoris Danielsseni FRIELE & HANSEN 1876.

Distribution: Bergen, Norway, 20—30 fms (Friele & Hansen 1876).

Idalia elegans LEUCKART 1828.

Distribution: Kullen, Sweden (Mörch 1871). — Danish coast (Mörch 1871). — British coasts (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean and Adriatic (Carus 1889). Depths 15 fms (Jeffreys).

Idalia pulchella ALDER & HANCOCK 1855.

Habitat:

Flatholmen, Gullmarn, Bohuslän (Lovén) 4 sps.

General distribution:

Norway: the west coast (Aalesund); Lofoten 200 fms (G. O. Sars 1878); Tromsö (Krause 1895). — British coasts (Jeffreys 1869). — Massachusetts (Verrill 1882).

var. **fusca** n. n.

Pl. II fig. 19.

Habitat:

Gullmarn, Bohuslän (Lovén) 1 sp. (= *I. cirrigera* Phil. of Lovén 1846).

Idalia aspersa ALDER & HANCOCK 1845^a.

Habitat:

Väderöarna, Bohuslän, 6 fms, rocks (Goës) 2 sps.

General distribution:

Norway: Hammerfest (Friele & Grieg 1901). — British and Irish Coasts (Jeffreys 1869). — France (Vayssièrè 1901).

Ancula cristata (ALDER 1841).

Pl. III figs. 16—17.

Habitat:

Bohuslän: Kåringön (Lovén) 1 sp.; D:o Löken, Gullmar 15 fms. 1 sp. (Mus. G.)
 Norway: Aalesund (Kröyer) 1 sp.

General distribution:

Norway: the west coast 5—10 fms (G. O. Sars 1878). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871): Kattegatt (Bergh 1880). — Kiel; Heligoland (Meyer & Möbius 1865; Heincke 1897). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — British coasts (Jeffreys 1869). — Iceland (Mörch 1868). — Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Herzenstein 1893). — St. Lawrence (Verrill, in Bergh 1880).

Aeolis papillosa (LINNÉ 1766).**Habitat:**¹

West coast of Sweden: Halland, between Vinga and Kullen, 14 fms, clay and shells (²/₇ 1902, Lönnberg) 1 sp. — Göteborg Skärgård 2—14 fms 2 sps. (Mus. G.). — Bohuslän: ¹) Gullmar, numerous sps.; D:o among algæ and rocks, 1 1/2 fms c. 15 sps.; D:o 70 fms, red algæ (1905) 1 sp.; ²) Uddevallafjärden (Jacobsen) 3 sps.; ³) Dyngö, Fjällbacka (Hanson) 2 sps.; ⁴) Skorpö, Strömstad (Febr. 1890, Hanson) 1 sp.; D:o (June 1890, Hanson) 1 sp.

Norway: Bergen (1848, Christie) 1 sp. — Grötsund, Finmarken, low water (Goës & Malmgren) 1 sp.; D:o Sörvær c. 10 sps. (Mus. U.).

? Kara Sea: Leeche (1878).

Spitzbergen and East Greenland: 3 local. 3—100 m, mud, sand, stones, algæ (Mus. U., Hägg 1905).

General distribution:

Norway: the south and west coast to Lofoten and Tromsö, to 20 fms (G. O. Sars 1878); Vadsö (Norman 1902); Bussesund (Bergh 1886). — Spitzbergen, Prince Charles' Foreland (Hägg 1905). — Iceland (Mörch 1868; Johansen 1902). — Faroe Islands (Mörch 1867). — British Islands (Forbes & Hanley 1853; Jeffreys 1869). — Denmark (Mörch 1871). — Kiel; L. Belt; Heligoland (Meyer & Möbius 1865, Heincke 1894). — Holland (van Haren Norman 1878). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — East coast of N. America (Gould & Binney 1870; Verrill 1882; Whiteaves 1901). — Baffin Land (Dall 1879). — Alaska (Dall 1885). — Behring Sea (Dall 1886). — Chile; Patagonia (Bergh 1894). — Depths 2—100 m (Hägg 1905). — Stones, sand, mud and algæ.

¹ The specimens from Franz-Joseph Fiord, mentioned by Hägg (1905), belong to *Coryphella salmonacea*.

Aeolidiella glauca (ALDER & HANCOCK 1845^b).**Habitat:**

Gullmarn, Bohuslän, 1 sp. (L. 11 mm).

General distribution:

Denmark, Limfjorden (Collin 1884). — British coasts (Jeffreys 1869). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889).

Cuthona nana (ALDER & HANCOCK 1842).

Pl. II. fig. 20.

Habitat:

Bohuslän: Gullmarn (Lovén) 1 sp.; D:o Gåsö 10 fms, 1 sp. (¹⁵/₇ 1872; Mus. G.).

General distribution:

Norway: Aalesund (G. O. Sars 1878). — Great Britain (Jeffreys 1869). — France (Vayssière 1901). — Behring Sea (Krause 1885).

Cuthona Peachi (ALDER & HANCOCK 1848).**Habitat:**

Laholmsbukten, Halland, west coast of Sweden, 11 fms, shells and algæ (¹³/₆ 1902, Lönnberg) 1 sp.

General distribution:

British coasts (Alder & Hancock 1848; Jeffreys 1869). — Ireland (Nichols 1899).

Cuthona aurantiaca (ALDER & HANCOCK 1842).**Habitat:**

Bohuslän, Gullmarn (Lovén) 2 sps.
Norway, Finmarken (Nylander & Gadd) 2 sps.

General distribution:

Norway: Husö 20 fms (Friele & Grieg 1901); Skraaven, Lofoten 30—40 fms (G. O. Sars 1878). — British coasts (Jeffreys 1869). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901).

Cratena olivacea (ALDER & HANCOCK 1842).**Habitat:**

Bohuslän, Gullmarn, 1 sp.; D:o, Blåbergsholmen (Febr. 1895, Aurivillius) 1 sp.;
D:o Gåsö 35 fms, Stångholmsrännan and Löken 25 fms, 1, 4, 2 sps. resp. (Mus. G.).

General distribution:

Norway: Manger (Friele & Hansen 1876) 5—10 fms. — British coasts (Jeffreys
1869; M'Intosh 1874). — Heligoland (Heineke 1894). — France (Vayssière 1901).

Cratena concinna (ALDER & HANCOCK 1843).

Pl. III fig. 22.

Habitat:

Bohuslän, Gullmarn (1889, Aurivillius) 1 sp.; D:o Humlesäcken (Lovén) 1 sp.;
D:o Löken 22—25 fms 3 sps. (Mus. G.).

General distribution:

Bear Island 35 fms (Friele & Grieg 1901). — Norway: Bergen from 5 fms (Friele
1876); Kristianiafjorden, 80—100 fms (Asbjörnsen 1854). — Bohuslän (Lovén 1846).
— British coasts (Jeffreys 1869). — Heligoland (Heineke 1894). — France (Vayssière
1901).

Cratena viridis (FORBES 1840).

Pl. III fig. 20.

Habitat:

Gullmarn, Bohuslän (Lovén) 2 sps.

General distribution:

Saltströmmen, Norway, 90 fms, and Bear Island, 35 fms (Friele & Grieg 1901).
— British coasts (Jeffreys 1869; M'Intosh 1874). — Heligoland (Heineke 1894). —
France (Vayssière 1901).

Cratena angulata (ALDER & HANCOCK 1844^a).

Pl. III fig. 19.

Habitat:

Gullmarn (Lovén) 1 sp. (= *Aeolis obtusalis* Alder & Hancock of Lovén 1846);
D:o 25 fms, 1 sp. (Mus. G.).

General distribution:

Great Britain (Jeffreys 1869). — Firth of Forth, Scotland (Metzger & Meyer
1875). — Normandie (Jeffreys 1869).

Cratena Olrikii (MÖRCH 1857).¹

Distribution: Greenland, Godhavn (Mörch 1857; Bergh 1864; Posselt 1898).

Cratena hirsuta (BERGH 1860).

Distribution: The Sea S. of Greenland (Bergh 1864); Egedesminde (Posselt 1898). — Spitzbergen: Bastian Islands 30 fms (Krause 1892).

Cuthonella abyssicola BERGH 1884.

Distribution: Faroe Channel 60° 5' N. 6° 21' W., 680 fms, bottom temp. — 1.1° C. (23/4 1882) 1 sp. (Bergh 1884).

Cuthonella ferruginea FRIELE 1902.

Distribution: N. W. of Iceland, 600 m 1 sp. (Friele 1902).

Cuthonella Berghi FRIELE 1902.

Distribution: Denmark Strait, 550 m 1 sp. (Friele 1902).

Hervia modesta BERGH 1874.

Distribution: Hellebæk, Sjælland (Bergh 1874).

Cumanotus laticeps n. sp.

Text-figs. 2—4.

Habitat:

Norway: Sörvær, Finmarken, 5—10 fms (July 1890, Jägerskiöld) 4 sps.

Tergipes despectus (JOHNSTON 1835).

Distribution: Norway: Bergen 0—10 fms (Friele & Hansen 1876); Husö, littoral (Friele & Grieg 1901). — Great Britain (Jeffreys 1869). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssiére 1901). — East coast of N. America (Gould & Binney 1870).

Forestia albicans (FRIELE & HANSEN 1876).

Distribution: Norway, Florö, Bergen 10 fms, on Fucus (Friele & Hansen 1876).

¹ The specimen mentioned by POSSELT is a *Coryphella salmonacea*.

Embletonia pallida ALDER & HANCOCK 1855.**Habitat:**

The Baltic: Off Karlshamn, Blekinge (9/9 1856, Cederström) 3 sps.

General distribution:

Finland, by Helsingfors (Levander 1899). — Gotland (Lindström 1868). — Pillau; Warnemünde (Möbius 1873). — Kiel (Meyer & Möbius 1865). — Königsberg (Hensche 1866). — Denmark (Mörch 1871). — Norway: Bergen (Metzger & Meyer 1875). — Lofoten (G. O. Sars 1878). — British coasts (Jeffreys 1869).

Embletonia pulchra (ALDER & HANCOCK 1844^b).**Habitat:**

Bohuslän, Gullmarn, 10 fms, shells and sand (Lovén) 2 sps.

General distribution:

British coasts (Jeffreys 1869). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Mediterranean (Carus 1889).

Amphorina Alberti QUATRÉFAGES 1844.

Distribution: Traugisvaag, Faroe Islands (Bergh 1899). — France (Vayssièrè 1901). — Mediterranean (Carus 1889).

Capellinia ? fustifera (LOVÉN 1846).

Pl. III fig. 23.

Habitat:

Kvarnholmen. Bohuslän 12 fms 1 sp. (Mus. G.).

General distribution:

Bohuslän (Lovén 1846). — Adriatic (M. Sars 1853).

Galvina picta (ALDER & HANCOCK 1842).

Distribution: Norway, Florø, 5—10 fms (Friele & Hansen 1876); Husø, littoral (Friele & Grieg 1901). — British coasts (Jeffreys 1869). — Heligoland (Heincke 1894). — France (Vayssièrè 1901). — Mediterranean and Adriatic (Carus 1889). — East coast of N. America (Friele & Grieg 1901).

Galvina Farrani (ALDER & HANCOCK 1844^a).

Distribution: ? Norway: Vardø, Bussesund (Bergh 1886); Bergen (Bergh 1877). — British coasts (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean (Carus 1889).

Galvina exigua (ALDER & HANCOCK 1848).

Pl. III fig. 21.

Habitat:¹

The Baltic: Dalbyö, Södermanland Skärgård (Nordenskiöld) c. 15 sps. — Kiel (Möbius) 1 sp.

Bohuslän: Gullmarn, in the surface of the water (Aug. 1883, Asklund) 3 sps.; D:o among *Zostera* (Aug. 1887, Asklund; June 1895, Aurivillius) 16 sps.; D:o (Lovén; Mars 1902, Lönnberg) 2 and 10 sps.; D:o Löken 8 fms 1 sp. (Mus. G.).

General distribution:

Norway: Bergen 5—10 fms (Bergh 1874); Finmarken (G. O. Sars 1878). — White Sea (Herzenstein 1893). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — L. Belt, Kiel (Meyer & Möbius 1865). — Gotland and Stockholm Skärgård (Lindström 1868). — Heligoland (Heincke 1894). — France (Vayssièrè 1901). — Adriatic (M. Sars 1853). — Massachusetts (Verrill 1882).

Galvina cingulata (ALDER & HANCOCK 1842).**Habitat:**

Bohuslän, Gullmarn (Lovén) 2 sps.

General distribution:

British coasts (Jeffreys 1869). — France (Vayssièrè 1901).

Galvina flavescens FRIELE & HANSEN 1876.

Distribution: Norway: Manger and Alverstrømmen (Friele & Hansen 1876).

Galvina rupium (MÖRCH 1842).**Habitat:**

Greenland: Posselt (1898) 10—20 fms. Further: Claushavn 5—10 fms (³/₈ 1870, Öberg) 4 sps.; D:o 10—15 fms (⁶/₈ 1870, Öberg) 2 sps.; Umanak 40—50 fms, clay (Koren) 1 sp.

General distribution:

Greenland (Mörch 1842; Bergh 1864; Posselt 1898).

¹ The *Galvina exigua*, mentioned by AURIVILLIUS 1887 (from Jugor sharr, Kara Sea) is another species (G. Farrani?), because the papillæ are set in about 10 rows, the largest containing to 10 papillæ.

Galvina tricolor (FORBES 1838).

Pl. II fig. 17.

Habitat:

Kattegatt: Anholt 1 sp. (Mus. G.).

Bohuslän: Gullmarn (Lovén) 1 sp.; D:o (1884, 1893, Aug. 1896, 1900), 1, 1, 1, 2 sps.; D:o, Gåsö ($\frac{6}{6}$ 1905) 1 sp.; D:o 16—30 fms 7 sps. (Mus. G.).**General distribution:**

Norway: west coast 5—10 fms (G. O. Sars 1878). — British coasts (Jeffreys 1869). — France (Vayssière 1901).

Coryphella rufibranchialis (JOHNSTON 1832).**Habitat:**

The Baltic: Kiel (Möbius) 2 sps.

Bohuslän: Gullmarn, numerous sps.; D:o 10—22 fms, 5 sps. (Mus. G.); D:o (Jan. 1890, Wirén) 11 sps.; D:o among algæ and *Zostera* (winter 1895, Aurivillius) 20 sps.; D:o Önholmen, Grundsund (Nov. 1888, Lönnberg) 20 sps. — Skorpö, Strömstad (1890, Hanson) 35 sps.; D:o Nötholmen (1890, Hanson) 50 sps.; Strömstadsfjärden, $\frac{1}{2}$ m (Mars 1890, Hanson) 30 sps.**General distribution:**

Norway: the west coast to Lofoten and Finmarken 0—5 fms (G. O. Sars 1878); Tromsö (Krause 1895); Herlöfjord 100—150 fms (Grieg 1896). — Great Britain (Jeffreys 1869). — Denmark (Mörch 1871). — L. Belt and Kiel (Meyer & Möbius 1865). — Travemünde (Lenz 1875). — Heligoland (Heincke 1894). — Mediterranean (Carus 1889). — St. 322, 21 fms (Friele & Grieg 1901). — Behring Sea (Friele & Grieg 1901).

Coryphella pellucida (ALDER & HANCOCK 1843).**Habitat:**

Bohuslän: Gullmarn (1895) 2 sps.; D:o (Mars 1902, Lönnberg) 1 sp.; D:o (Ask-lund) 1 sp. — Kosterfjorden (Ljungman) 1 sp.

General distribution:

Norway: Kristianiafjorden (Asbjørnsen 1854); the west coast 10—20 fms (G. O. Sars 1878); Husö, 60 fms and littoral (Friele & Grieg 1901). — England and Scotland (Jeffreys 1869). — Mediterranean (Carus 1889).

Coryphella lineata (LOVÉN 1846).

Pl. III fig. 26.

Habitat:

West coast of Sweden: Halland, Laholmsbukten 15 fms, shells ($1^{0}/_{7}$ 1902, Lönnberg) 1 sp. — Bohuslän: Kåringön (Lovén 1834) 5 sps.; Gullmarn, Smedjebrotten (June 1901) 6 sps.; D:o (Mars 1902, Lönnberg) 1 sp.; D:o 10—40 fms, 3 sps. (Mus. G.). — Sydkoster (Aug. 1887, Askund) 1 sp.; D:o 15 fms 1 sp. (Mus. G.);

Norway: Finmarken, Kalfjord, low water ($2^{1}/_{10}$ 1861) 25 sps. — Öxfjord (Boeck) 1 sp.

General distribution:

Norway: Lofoten and the west coast 20—30 fms (G. O. Sars); Tromsö 30 fms (Krause 1895); Husö 50—60 fms (Friele & Grieg 1901). — Iceland (Johansen 1902). — British coasts (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean (Carus 1889).

Coryphella gracilis (ALDER & HANCOCK 1844^a).**Habitat:**

Bohuslän: Strömstad (Hanson, April 1892) 3 sps.; Blåbergsholmen (Aurivillius, Febr. 1895) 2 sps. — Gullmarn 30 fms ($2^{0}/_{6}$ 1879) 1 sp. (Mus. G.); D:o, Gåsö 1 sp. (Mus. G.).

General distribution:

Hellebæk, Sjælland (Bergh 1875). — British coasts (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean (Carus 1889).

Coryphella Landsburgi (ALDER & HANCOCK 1846^b).**Habitat:**

Gullmarn, Bohuslän (1893) 1 sp.

General distribution:

Norway: Florö, 5—10 fms, on Laminariæ (Friele & Hansen 1876); ? Vardö, Bussesund (Bergh 1886). — England and Scotland (Jeffreys 1869). — Heligoland (Heincke 1894). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean (Carus 1889).

Coryphella bostoniensis BERGH 1864.**Habitat:**

Kara Sea: Leche (1878).

Iceland: 2 sps. without definite locality.

Peninsula Kola: Waidaguba, 20 fms (July 1877, Sandeberg) 3 sps.; D:o, on the shore (Sept. 1877) 1 sp. — Litza (1877) 1 sp. — Semi Ostrowa 50—55 fms (Aug. 1877) 1 sp.

Greenland: Posselt (1898) 3—100 fms, clay, stones, rocks, algæ. Further: Godthaab, 50 fms, clay (Amondson) 1 sp. — Egedesminde (Torell) 2 sps.; D:o 10—15 fms, algæ and stones (¹³/₇ 1870, Öberg) 1 sp. — Julianehaab, 0—25 fms, sand and algæ (⁷/₈ 1883 Sofia Exp.) 1 sp. — The Fiord off Upernivik, 3—10 fms, sand and algæ (²³/₇ 1883 Sofia Exp.) 1 sp. — Sukkertoppen, 240 fms, shells and clay (July 1861, Amondson) 1 sp.

General distribution:

Spitzbergen (Bergh 1878). — Greenland (Mörch 1857; Posselt 1898).

Coryphella Sarsi Friele 1902.

Habitat:

East Greenland: S. of Walrus Island, 80—100 m, mud and stones, 1 sp. (1900; Hägg 1905).

General distribution:

N. of East Finmarken, 300 m (Friele 1902).

Coryphella salmonacea (COUTHOUY 1839).

Habitat:

Kara Sea: Leche (1878).

Spitzbergen: Bel Sound, 30—35 fms, stones and Actiniæ (Torell) 1 sp. — Advent Bay, 3 fms, algæ (⁵/₈ 1868) 1 sp. — Virgo's Harbour, Danes Island, 2—3 fms, algæ (²⁶/₈ 1898) 2 sps. — Horn's Island, 3—10 fms, algæ (²/₈ 1864) 10 sps. — Smeerenberg, low water (²²/₈ 1868) 7 sps. — Liefde Bay, 140 m, stones and red algæ (²⁵/₈ 1898) 2 sps.; D:o 5 fms, algæ, stones and clay (³/₈ 1868) 15 sps.; D:o 3—8 fms, algæ, stones and clay (²⁰/₈ 1868) 14 sps. — Lomme Bay, 10 fms (²⁹/₈ 1868) 3 sps.; D:o 5—15 fms, algæ, stones and clay (¹⁰/₈ 1868) 4 sps. — Treurenberg Bay, 3 fms, stones and clay (1860) 4 sps. — Kobbe Bay, 3 fms, sand (1861) 1 sp.; D:o 1—3 fms, algæ (³⁰/₈ 1868) 1 sp. — Castrén's Islands, 3—5 fms, algæ and stones (⁶/₈ 1868) 3 sps. — Norwegian Islands, 15—20 fms, stones and sand (¹²/₈ 1872) 1 sp. — Brandywine Bay, 5—15 fms, stones and rocks (⁵/₈ 1868) 1 sp. — Shoal Point 20 fms (1861) 1 sp. — Hinlopen Str. 25 fms, stones and clay, 2 sps.

Iceland: Hafsa's (Torell) 1 sp.

West Greenland: Posselt (1898) 5—140(?) fms, clay, stones, algæ. Further: Frederiksdal, 15—20 fms, algæ and stones (1883) 3 sps. — Präven, on Laminariæ, 8 sps. — 66° N. 3 miles off the coast, 30—40 fms (Torell) 1 sp. (= Cratena Olrikii in Posselt 1898).

East Greenland: Mackenzie Bay, 12—35 m, mud, 1 sp., and 3—10 m, mud and sand with Laminariæ 2 sps. (1900); the same local. 12—35 m (Mus. U.; Hägg 1905).

Davis Strait and Baffin Bay: Cape Dudley Digges, 30—45 m, mud (1894) 4 sps. — 64° 56' N. 66° 18' W. 15—30 m, sand (1894) 4 sps.

General distribution:

Norway: Lofoten, 20—40 fms; Aalesund (G. O. Sars 1878); Vardö, Bussesund (Bergh 1886); Tromsö 15 fms (Krause 1895). — Murman coast to 200 m; White Sea (Pfeffer 1889). — Spitzbergen (Friele & Grieg 1901). — Greenland (Mörch 1857). — Discovery Bay, Grant Land (Smith 1877). — East Canada to Cape Cod (Gould & Binney 1870). Depths 1—200 m. Clay, stones, algæ.

***Coryphella verrucosa* (M. Sars 1829).**

Habitat:

West coast of Sweden: Skåne, Torekov, 14 1/2 fms (15/7 1902, Lönnberg) 2 sps. — Bohuslän, Gullmarn (1893) 2 sps.; D:o Lindholmen (1890, Aurivillius) 1 sp.; Kosterfjorden (Ljungman) 1 sp.

General distribution:

Kristianiafjorden to Vardö, Norway, 0—10 fms (G. O. Sars 1878); Manger, Bergen (Friele & Hansen 1876).

***Coryphella Stimpsoni* VERRILL 1880**

(incl. var. *lævidens* KNIPOWITSCH 1902).

Habitat:

Peninsula Kola: Jokonga Bay, sand (8/8 1877, Sandeberg) 15 sps.

General distribution:

Murman coast (Pfeffer 1889; Herzenstein 1893). — White Sea (Herzenstein 1893). — Spitzbergen: Deevie Bay (Krause 1892); Stor Fjord (var. *lævidens*, Knipowitsch 1903). — Massachusetts Bay to Halifax (Whiteaves 1901).

***Chlamylla borealis* BERGH 1886.**

Distribution: 75° 49' 8" N. 53° 41' W., 68 fms, 1 sp., 18/8 1881 (Bergh 1886).

***Chlamylla typica* (BERGH 1886).**

Distribution: North Atlantic 69° 45' 12" N. 54° 34' 28" W., 31 fms, bottom temp. + 0.9° C. (Bergh 1886).

***Chlamylla intermedia* (BERGH 1899).**

Distribution: 66° 43' N. 55° 57' W., 88 fms, bottom temp. + 2.6° C. (Bergh 1899).

Chlamylla atypica (BERGH 1899).

Distribution: 66° 43' N. 55° 57' W., 88 fms, bottom temp. + 2.6° C. (Bergh 1899).

Favorinus albus (ALDER & HANCOCK 1844^a).

Pl. III figs. 24—25.

Habitat:

The Baltic: Kiel (Möbius) 2 sps.

General distribution:

Norway: Sölsvig, the west coast 10—20 fms (Metzger & Meyer 1875). — Murman coast (Herzenstein 1893). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel (Meyer & Möbius 1865). — France (Vayssièrè 1901). — Adriatic (Carus 1889).

Favorinus branchialis (MÜLLER 1806).**Habitat:**

Göteborg Skärgård. Längdrag, 5 feet, 2 sps.: Kvarnholmen, Bohuslän, 12 fms. 1 sp. (Mus. G.).

General distribution:

Denmark (Mörch 1871). — ? Bohuslän (Lovén 1846). — Kristianiafjorden (Asbjörnsen 1854). — Christiansund (Lilljeborg 1851). — Bergen 5—10 fms (Friele & Hansen 1876).

Facelina Drummondi (THOMPSON 1843).

Pl. III fig. 27.

Habitat:

The Baltic: Kiel (Möbius) 7 sps.

West coast of Sweden: Skåne, between Torekov and Arilds läge, 14 fms, shells and clay (¹/₇ 1902, Lönnberg) 1 sp.; Väderön, 13¹/₂ fms, shells (¹⁸/₇ 1902, Lönnberg) 1 sp.; between Skandö and Grytskär, 10 fms, Zostera (¹⁹/₇ 1902, Lönnberg) 1 sp. — Halland, Laholmsbukten, 11 fms shells and algæ (¹³/₆ 1902, Lönnberg) 1 sp. — Göteborg Skärgård 4 sps. (Mus. G.). — Bohuslän: ¹) Kåringön (Lovén 1834) 7 sps.; ²) Gullmarn, between Löken and Svenningeskär (Lovén) 1 sp.; D:o Färlefjorden, 5—20 fms (1889) 1 sp.; D:o Gåsöfjord, 20 fms (May 1895, Aurivillius) 1 sp.; D:o Gåsöfjord (Jan. 1890, Wirén) 6 sps.; D:o Gåsörännan off Smalsund (¹⁰/₈ 1905 and ⁶/₆ 1905) 7 sps.; ³) Stigfjorden 5 sps.; ⁴) Väderöarna, 15 fms, 1 sp.; D:o 11—20 fms 3 sps.; D:o 7 fms, algæ, 1 sp.; D:o 10 fms, shells and algæ (1862) 2 sps.; ⁵) Sveholmarna, Kosterännan (Aug. 1889) 1 sp.

Norway: Kristianiafjorden (Asbjörnsen) 2 sps. — Hillevaag, Stavanger, on Zostera, 1 sp.

General distribution:

Norway: the west coast 0—10 fms (G. O. Sars 1878); Saltströmmen, 90 fms (Friele & Grieg 1901); Hvidingsö (Metzger & Meyer 1875). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel (Meyer & Möbius 1865). — Travemünde (Lenz 1875). — Heligoland (Heincke 1894). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean (Carus 1889).

Facelina coronata (Forbes 1839).

Distribution: Norway, Florø 0—10 fms (Friele & Hansen 1876). — British coasts (Jeffreys 1869). — Heligoland (Heincke 1894). — Holland (Loman 1893). — Belgium (Pelseneer 1882; Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean (Bergh 1877). — Bohuslän (Jeffreys 1869). — Denmark (Mörch 1871).

Facelina auriculata (MÜLLER 1806).

Distribution: Norway: Stat (Müller 1806): Manger 0—10 fms (Friele & Hansen 1876).

Fiona marina (FORSKÅL 1775).**Habitat:**

Bohuslän: Kristineberg, Gullmarn (²²/₇ 1887, Asklund) 2 sps. »taken from the body of a ship arrived from the Mediterranean ¹⁵/₇ 1887».

General distribution:

British coast (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean (Carus 1889). — Off Morocco (Bergh 1899). — Massachusetts (Verrill 1882). — Pigeon Bay, Pacific (Bergh 1900). — ?Japan (Bergh 1877).

Antiopa cristata (DELLE CHIAJE 1841).**Habitat:**

Bohuslän: Gullmarn, Flatholmen (Aug. 1891, Carlgren) 1 sp.; D:o Kristineberg (1885) 1 sp.

General distribution:

Norway: Tananger (G. O. Sars 1878). — British coast (Jeffreys 1869). — France (Vayssièrè 1901). — Mediterranean and Adriatic (Carus 1889).

Hero formosa (Lovén 1844).

Pl. III figs. 30—32.

Habitat:

West coast of Sweden: Gullmarn (Lovén) c. 30 sps.; D:o 40—45 fms (July 1903) 1 sp.; D:o Gåsöfjord, clay (Jan. 1890, Wirén) 3 sps.; D:o Smedjebrotten, 18 fms,

sand and rocks (Wirén) 1 sp. — Koster (Aug. 1883, Aurivillius) 2 sps.; Sydkoster (1887, Asklund) 1 sp.

General distribution:

Norway: Lofoten 15—100 fms (G. O. Sars 1878); Tromsö (Schneider 1894) and the west coast, 150 fms (Grieg 1896^a); Kristianiafjorden (M. Sars 1870). — England and Scotland (Jeffreys 1869). — Kullen, Sweden (Lilljeborg 1851). — Denmark, Hornbæk (Mörch 1871).

***Doto coronata* (Gmelin 1783).**

Pl. II figs. 23—24.

Habitat:

Bohuslän: Gullmarn 5 sps.; D:o, red algæ (Aug. 1887, Asklund) 2 sps.; D:o, algæ (Febr. 1895, Aurivillius) 3 sps.; D:o (1888, Lönnberg) 4 sps.; D:o Flatholmsrännan (Jan. 1890, Aurivillius) 1 sp.; D:o Flatholmen (Aug. 1887, Asklund) 10 sps.; D:o Flatholmen on a *Holothuria intestinalis* (⁸/₇ 1900) 1 sp. — D:o Gåsö 12 fms 1 sp. (Mus. G.); D:o Löken 20—25 fms, 2 sps. (Mus. G.). — Kosterfjorden (June 1880, Hanson) 5 sps.

Norway: 20 sps. without definite locality. — Grötsund, Finmarken (²⁴/₁₀ 1861, Goës) 1 sp.

Peninsula Kola: Waidaguba 20 fms (July 1877, Sandeberg) 1 sp.

General distribution:

Norway: the south and west coast to Finmarken 0—10 fms (G. O. Sars 1878); Saltströmmen 90 fms (Friele & Grieg 1901); Kristianiafjorden (Asbjörnsen 1854). — British coasts (Jeffreys 1869). — Kattegatt (Mörch 1871) — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Portugal (Nobre 1905). — Mediterranean and Adriatic (Carus 1889). — Grand Manan, Maine, N. America (Whiteaves 1901).

***Doto fragilis* (FORBES 1838).**

Pl. III figs. 33—34.

Habitat:

Bohuslän: Gullmarn, Humlesäcken (July 1887, Asklund) 2 sps.; D:o Gåsörännan (Aug. 1894) 1 sp.; D:o Skårberget 20—50 fms (²⁹/₄ 1895, Aurivillius) 1 sp.; D:o 25 fms, 1 sp. (Mus. G.). — Väderöarna (Lovén) 2 sps.

General distribution:

Norway: Kristianiafjorden, 20 fms (M. Sars 1870). — British coasts (Jeffreys 1869). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssièrè 1901). — Adriatic (Carus 1889).

Doto crassicornis M. Sars 1870.**Habitat:**

Bohuslän: Kosterfjorden 20—40 fms (July 1895, Aurivillius) 1 sp.

General distribution:

Norway, Dröbak, 50—60 fms (M. Sars 1870). — Bergen, 100 fms (Friele 1876)

Pleurophyllidia Lovéni BERGH 1860.

Pl. II figs. 21—22.

Habitat:

West coast of Sweden: Skåne, Skelderviken, 13 fms, clay and shells (July 1878, Théel & Trybom) 1 sp.; between Kullen and Vinga skär, 14¹/₂ fms, clay (¹⁵/₇ 1902, Lönnberg) 3 sps.; E. of Väderön, 14 fms, clay and shells (⁴/₇ 1902 Lönnberg) 1 sp.; Mölle läge, Kullen (Lovén 1832) 1 sp.; D:o 1 sp. (Mus. U.; Lilljeborg 1854). — Bohuslän: ¹) Gullmarn (Lovén) 1 sp.; D:o 22—24 fms, 2 sps. (Mus. G.); D:o (1895 and July 1898) 1 and 3 sps.; D:o outside Långegaps ände, 32 m, mud (Aug. 1902) 1 sp.; D:o, Bökevik, 16 fms (Lovén) 1 sp.; ²) Dyngö, Fjällbacka, 15 fms, clay (Goës) 2 sps.

General distribution:

Norway: Kristianiafjorden, 10—15 fms (Asbjörnsen 1854). — Zealand, Denmark (Mörch 1871). — British coasts (Jeffreys 1869). — Depths 7—40 fms.

Pleuroleura Walteri KRAUSE 1892.**Habitat:**

Spitzbergen: Waygat Islands 72° 20' N. 19° E., 30 fms rocks (¹⁶/₈ 1861, Malmgren) 1 sp. (L. = 23 mm.).

East Greenland: Mackenzie Bay 100 m, mud, 2 sps. (1900; Hägg 1905).

General distribution:

Spitzbergen, 55 fms (Krause 1892); D:o 23 fms (Knipowitsch 1902).

Hermæa bifida (MONTAGU 1815).

Pl. III fig. 29.

Specimen lost.

Distribution: Bohuslän, algæ (Lovén 1846). — British coasts (Jeffreys 1869). — France (Vayssière 1891). — Portugal (Nobre 1905). — Mediterranean (Carus 1889).

Hermæa dendritica (ALDER & HANCOCK 1843).

Pl. III fig. 28.

Specimen lost.

Distribution: Bohuslän, algæ (Lovén 1846). — Norway, the west coast; Kristianafjorden (G. O. Sars 1878); Husö, littoral (Fricke & Grieg 1901). — British coasts (Jeffreys 1869). — France (Vayssière 1901). — Mediterranean and Adriatic (Carus 1889).

Stiliger Mariæ (MEYER & MÖBIUS 1865).**Habitat:**

Gullmarn (Lovén) 2 sps. (determined by Lovén as *Tergipes bullifer*); D:o Gåsö 2 sps. (Mus. G.).

General distribution:

Kullen (Lovén 1846, *Tergipes bullifer*). — Kiel (Meyer & Möbius 1865). — Norway: Tananger (G. O. Sars 1878). — Trieste, Adriatic (Bergh 1885).

Alderia modesta (LOVÉN 1844).

Pl. II fig. 25.

Habitat:

The Baltic: Malmö, the harbour, 7–8 fms, among *Zostera* and algæ (Aug. 1864, Smitt) 1 sp. — Skelderviken 1 sp. (Mus. U.).

Bohuslän: Kåringön (Lovén 1834) 1 sp.

General distribution:

Finland, Helsingfors, in a shore-lagoon (Luther 1902). — Norway: Trondhjem-fjorden (Norman 1893). — British coasts; Antwerpen (Jeffreys 1869). In shallow salt or brackish water and shore-lagoons.

Elysia viridis (MONTAGU 1804).

Pl. II figs. 26–27.

Habitat:

The Baltic: Kiel (Möbius) 1 sp.

West coast of Sweden: Gullmarn (Lovén) 1 sp.; D:o (1893) 2 sps.; D:o Smalsund among *Zostera* (Aug. 1887) 10 sps.; D:o Gåsö 4 sps. and Långedrag, Göteborg Skärgård 2 sps. (Mus. G.). — Koster 100 m (July 1890) 1 sp.

General distribution:

Norway: the west and south coast, 10 fms (G. O. Sars 1878). — Finmarken (Lovén 1846). — British coasts (Jeffreys 1869). — Denmark (Mörch 1871). — Kiel

(Meyer & Möbius 1865). — Heligoland (Heincke 1894). — France (Vayssière 1901). — Portugal (Nobre 1905). — Mediterranean, Adriatic and Aegean (Carus 1889).

var. **minuta** M. SARS 1835.

Distribution: Bergen; Christiansund (M. Sars 1835); Finmarken (Lovén 1846). (Bergh 1872^b.)

Limapontia capitata (MÜLLER 1776).

Habitat:

The Baltic: Kiel (Möbius) 1 sp. — Göteborg Skärgård, 4 sps. (Mus. G.).
Norway: Finmarken (Lovén) 3 sps.

General distribution:

Finland, Helsingfors (Levander 1899). — Stockholm Skärgård; Gotland (Lindström 1868). — Kiel (Meyer & Möbius 1865). — Kullen; Norway (Lovén 1846). — Bornholm (Möbius 1873). — Denmark (Mörch 1871). — Norway: the whole coast to 10 fms (G. O. Sars 1878). — Murman coast (Pfeffer 1889). — Vadsö (Norman 1902). — British coasts (Jeffreys 1869). — Heligoland (Heincke 1894). — Holland and Belgium (Maitland 1897). — France (Vayssière 1901). — Portugal (Nobre 1905).

var. **islandica** STEENSTRUP 1868.

Distribution: Iceland (Mörch 1868; Bergh 1873).

Actæonia corrugata ALDER & HANCOCK 1848.

Habitat:

Bohuslän: Kungshufvud, Strömstad, among Confervæ (Sept. 1902, Hanson) 1 sp.

General distribution:

Norway: the west coast 0—10 fms (G. O. Sars 1878); Bukken, Bergen (Grieg 1896); Husö, littoral (Friele & Grieg 1901). — British coasts (Jeffreys 1869). — France (Vayssière 1901).

Limacina helicina (PHIPPS 1774).

Habitat:

White Sea: Solowetskij Island (1892, Knipowitsch) 3 sps.
Kara Sea: Leche (1878).
Bear Island: 15—20 fms, algæ (²⁴/₇ 1870) 3 sps.; N. E. of Bear Island 75° N. 14° E., 2—3 fms, 3 sps.

Spitzbergen: Recherche Bay ($^{5/7}$ 1898) 5 sps. — Ice Fjord (Lovén 1837) 30 sps.; Advent Bay »at the shore, in the surface» ($^{5/8}$ 1868) c. 50 sps.; Cape Thordsen ($^{11/8}$ 1870, Villander) c. 30 sps. — Virgo's Harbour, Danes Island (1898) 5 sps. — Smee-renberg (1868) 4 sps. — 80° N. 13° E., 3—4 fms ($^{1/6}$ 1861) 30—40 sps. — 80° $21'$ N. 18° E., 1—3 fms ($^{19/7}$ 1861) 100 sps. — Hinlopen Strait »close by the glacier S. of Lovén's Mount (none farther off)» ($^{15/8}$ 1861) c. 20 sps. — Waigat Islands (1883) 10 sps. — Brandywine Bay, 8—15 fms ($^{5/9}$ 1868) 3 sps. — Swedish Foreland, King Charles' Land, temp. $+1^{\circ}$ C. ($^{6/8}$ 1898) 7 sps. — Stor Fjord ($^{22/8}$ 1864) 50 sps. — Whalers Point ($^{9/8}$ 1864) c. 25 sps.

Spitzbergen—Greenland: 78° N. 2° $27'$ W., in the ice ($^{23/9}$ 1861) 2 sps. — 78° $27'$ N. 15° $23'$ W. (1861) 15 sps.

West Greenland: Pröven (1883) 30 sps. — Umanak ($^{22/8}$ 1860, Amondsen) 3 sps. — Godthaab 63° $45'$ N. 52° $5'$ W. (1871) 5 sps. — 64° $20'$ N. 54° W. (1860, Amondsen) 5 sps. (together with *Spirialis balea*). — 68° $20'$ N. 56° $40'$ W. (1871) 50 sps. — Ritenbenk (1883) 10 sps.

East Greenland: Franz-Joseph Fiord 11 sps. (1900); D:o numerous sps. (Mus. U.; Hägg 1905).

Baffin Bay: 30 miles E. of Cape Bowen (1894) numerous sps. — 71° $57'$ N. 73° $56'$ W. (1894) 30 sps. — 72° $50'$ N. 75° $43'$ W. (1894) 5 sps. — 72° $5'$ N. 59° $31'$ W. numerous sps. (Mus. U.).

North Atlantic: 59° $46'$ N. 36° $40'$ W. (1871) c. 70 sps.

General distribution:

Norway: Finmarken (G. O. Sars 1878); Vadsö (Norman 1902). — White Sea (Herzenstein 1893). — Iceland (Pelseneer 1887). — Gulf of Biscay and Mediterranean (Friele & Grieg 1901). — Spitzbergen (Mörch 1869). — Labrador (Dall 1886^a). — Davis Strait (Pelseneer 1888). — Baffin Bay (Leach 1819). — Alaska, Aleutian Islands and Pacific (Pelseneer 1888).

Spirialis balea (MÖLLER 1841).

Habitat:

Norway: Karlsö N. of Tromsö, 15—20 fms, sand, stones (Malmgren 1861) 2 sps.; Hammerfest (Lovén 1837) 20 sps.

Bear Island: 74° $27'$ N. 15° $23'$ E. (1861) 10 sps. — 75° N. 14° E., 2—3 fms, 1 sp.

North Atlantic: 59° $46'$ N. 36° $40'$ W., temp. in the surface $+6,2^{\circ}$ C. (Lindahl 1871) 3 sps. — 59° $42'$ N. 10° $22'$ W. (1866, Amondsen) c. 10 sps. — 58° $58'$ N. 25° $45'$ W., c. 80 sps. — 57° $10'$ N. 31° $9'$ W. (1866, Amondsen) 15 sps. — 58° $51'$ N. 34° $14'$ W. (1862, Amondsen) numerous sps. — 58° $56'$ N. 35° $45'$ W. (Torell) numerous sps. — 57° $46'$ N. 39° $32'$ W. (1862, Amondsen) numerous sps. — 55° $4'$ N. 44° $40'$ W. (1862, Amondsen) numerous sps.

General distribution:

Norway: Vadsö (Norman 1902); Lofoten S. to Christiansund (G. O. Sars 1878). — Iceland (Mörch 1868). — Greenland (G. O. Sars 1878, Posselt 1898). — East coast of N. America (G. O. Sars 1878).

Spiralis retroversus* (FLEMING 1823).*Habitat:**

Skagerrack off the coast of Bohuslän (Dec. 1904, Kaudern) numerous young sps.; Bohuslän: Soteskär (Aug. 1886, Munthe) 10 sps.; Strömstadsfjorden, 1 m (¹²/₄ 1892, Hanson) 100 young sps.; N. E. of Kåbblingarne (²⁷/₃ 1890) 10 young sps.; Gullmarn, from the stomach of herings (¹³/₁₁ 1893, Aurivillius) 10 young sps.

The North Sea: 57° 29' N. 6° 43' E. (Kinberg) numerous sps.

Norway: Kristianiafjorden (M. Sars) 20 sps. — Sörvær (July 1884) 10 sps.

General distribution:

Norway: Lofoten—Kristianiafjorden (G. O. Sars 1878); Trondhjemsfjorden (Norman 1893). — West european coast, Mediterranean and Canaries (G. O. Sars 1878). — America from Massachusetts Bay to Davis Strait; Iceland (Pelseneer 1888). — Greenland: Cape Farvel (Ostenfeld & Paulsen 1904).

Clio pyramidata* BROWNE 1756.*Habitat:**

North Atlantic: 55° 54' N. 17° 57' W. (1871) c. 35 sps. — 55° 23' N. 11° 24' W. (Amundsen) 6 sps. — 59° 10' N. 11° 56' W. (1861, Amundsen) c. 25 sps.

General distribution:

West coast of Norway (G. O. Sars 1878). — Faroe Islands (Mörch 1867). — Iceland (Mörch 1868). — Greenland and Davis Strait (Posselt 1898). — Atlantic from Iceland and Spitzbergen to 40° S.; Mediterranean; Indian Ocean from the Gulf of Bengal to 40° S.; Africa; Australia; Pacific Ocean: Japan, Yellow Sea, China Sea, Malay Archipelago, Eastern Australia to 40° S.; N. E. Pacific to 44° N.; S. E. Pacific to 27° S. (Pelseneer 1888).

***Cavolinia trispinosa* (Lesueur 1821).**

Distribution: Atlantic from 60° 15' N. (Triton Exp.) to 40° S.; Indian Ocean from the Gulf of Bengal to 41° S.; Africa; Australia; Pacific Ocean: Yellow Sea, China Sea, S. W. Pacific; N. E. Pacific to 30° N. (Pelseneer 1888).

Clione limacina* (PHIPPS 1774).*Habitat:**

West coast of Sweden: Fiskebäckskil, Bohuslän »after strong wind in Mars 1863» (Jacobsen) numerous sps.; Strömstadsfjorden (1876, Aurivillius) 4 sps.

Norway: Hammerfest (Lovén 1837) numerous sps.

White Sea: Solowetskij Island (1892, Knipowitsch) 4 sps. — D:o (1895, Rimskij-Korsakow) 2 sps.

Kara Sea: Leche (1878).

North of Siberia: Cape Tscheljuskin 77° 36' N. 103° 25' E., 5—10 fms, stones and clay (Vega Exp. 1878) 1 sp.

Bear Island: 6 sps. (²⁵/₇ 1868). — 72° 27' N. 15° 25' E. (¹⁴/₅ 1861) 1 sp. — 75° 12' N. 12° 7' E. 1 sp.

Spitzbergen: Horn Sound, 3—10 fms, algæ, 1 sp. — Bel Sound (Torell) 15 sps. — Recherche Bay (²/₇ 1898) 1 sp. — Ice Fjord, the surface (²⁶/₈ 1868) 9 sps. — Green Harbour, 5—20 fms, clay and algæ (³¹/₇ 1868) 1 sp. — Advent Bay, at the shores (⁵/₈ 1868) 12 sps. — Magdalena Bay, 10 fms, clay, mixed with sand (July 1861) 3 sps. — Smeerenberg 79° 40' N. 11° E., 20 fms, sand and stones (³⁰/₈ 1861) 16 sps. — Virgo's Harbour, Danes Island (²⁷/₈ 1898) 5 sps. — Wijde Bay (July 1861) 7 sps. — Liefde Bay (²⁹/₈ 1868) 3 sps.; D:o 10 fms, algæ, clay and stones (²/₉ 1868) 1 sp.; D:o 79° 30' N. 13° 30' E. (¹⁵/₅ 1861) 1 sp. — Waygat Islands (¹⁵/₈ 1861) 1 sp. — Red Bay in a lagoon of brackish water (Aug. 1861) 1 sp. — Stor Fjord, 5—10 fms (²²/₈ 1864) 3 sps.; D:o 77° 30' N. (²⁷/₈ 1864) 5 sps.

East Greenland: 80° 31' N. 18° W., 1—3 fms (¹⁹/₇ 1861) 1 sp. — 76° 20' N. 0° E, 3 sps. (1900). — 5 other local. between Greenland and Spitzbergen (Mus. U.; Hägg 1905).

North Atlantic: 59° 42' N. 10° 42' W. (²⁰/₅ 1866, Amundsen) 2 sps. — 59° 10' N. 11° 58' W. (1861, Amundsen) 10 sps. — 58°—60° N. 35°—40° W. (Torell) c. 45 sps. — 58° 4' N. 44° 40' W. (June 1862, Amundsen) c. 20 sps. — 59° 15' N. 50° 45' W. (June 1862, Amundsen) 2 sps. — 59° 49' N. 52° 57' W. (Amundsen) 4 sps.

Davis Strait: in the mouth of the Strait (¹/₈ 1859, Torell) 20 sps. — 60° 38' N. 56° 20' W. (²⁶/₆ 1861, Amundsen) 18 sps. — 64° 50' N. (July 1861, Amundsen) 2 sps.

West coast of Greenland: Godhavn, 5—15 fms, rocks with algæ (1871) 2 sps.; D:o 69° 14' N. 53° 38' W. (1883) 1 sp. — Fortuna Bay, Disko, 20 fms, clay (1870) 2 sps. — Egedesminde (1870) 1 sp. — Ritenbenk (1883) 2 sps.

Baffin Bay: 70° 40' N. 54° 32' W. (1894) 10 sps. — 71° N. 53° 56' W. (1871) c. 20 sps. — 71° 10' N. 58° 56' W. (1871) 10 sps. — 72° 44' N. 73° 20' W. (1894) c. 20 sps. — 73° N. 70° W., clear green water with Crustacea (1894) 10 sps. — 73°—74° N. c. 70° W. (1894) c. 20 sps.

General distribution:

Little Belt (Friele & Grieg 1901). — Bohuslän and west coast of Norway (Nordgaard 1905). — Lofoten and Finmarken (G. O. Sars 1878). — Vadsö (Norman 1902).

— Murman coast (Herzenstein 1893). — White Sea (Wagner 1885). — Jan Mayen (Friele 1879). — Spitzbergen (Mörch 1869; Knipowitsch 1901, 1902). — Iceland (Mörch 1868). — Faroe Islands (Mörch 1867). — British coasts (Jeffreys 1869). — New York to East Canada; Davis Strait; Baffin Bay (Whiteaves 1901). — Behring Strait and Sea; Aleutian Islands (Krause 1885).

Description of the new forms.

Diaphana hyalina TURTON var. *spirata* n. n.

Shell hyaline, distinctly umbilicated and with a few lines of growth as in the type; whorls $2\frac{1}{2}$, the first elevated, globular; outer lip a little inflexed above the middle and narrowly rounded at the top; columella with a distinct sinus. L. 3 mm. Br. 2 mm.

This form corresponds to *D. debilis* Gould of Pilsbry 1893, which consists of $2\frac{1}{2}$ whorls and has the spire mamillarily projecting. *D. (Bulla) debilis* is however described by Gould (1840) as having the apex obtuse and the whorls 5, and is the same as Turton's *D. (Bulla) hyalina* (1834). Pilsbry supposes this latter name to be a synonym of Brown's *D. (Utriculus) minuta* (1844), but that cannot be correct, for *D. minuta* has the »outer lip extending higher than the apex».

Diaphana glacialis n. sp.

Pl. I figs. 1—5.

Shell hyaline with a light yellowish brown cuticula, distinctly umbilicated and with spiral sculpture consisting of a few slightly elevated lines. Whorls 3, the first mamillar; some of the specimens have the apex twisted in a different plane from that of the following whorls. Outer lip uniformly rounded below, nearly straight in the middle and, upwards, forming a broad sinus and a deep slit before the junction with the body-whorl. Columellar margin slightly sinuous, continued upwards by a thin callus. L. 4 mm. Br. 3 mm.

Radula similar to that of *D. hyalina*; the central teeth lamelliform with erected posterior margin and a little thickened in the anterior and lateral parts. The lateral teeth of opposite sides a little differing in size.

Gonicæolis lobata n. sp.

Pl. I figs. 10—13, text-fig. 1.

Body of a yellowish white colour, 16 mm. in length, rather high (5 mm.), broadest in front ($7\frac{1}{2}$ mm.), tapering and strongly declining backwards. The back flattened,

its sides covered with papillæ, most of which have fallen off in the present specimens, their marks sparsely set in approximately obliquely transverse rows. The lateral parts of the back slightly tubercled by the underlying liver; the median compartment finely granulate.

The rhinophores stout, of stretched-conical form, blunt-topped and granulate, situated in the anterior margin of the back; their length 3 mm.

The anterior right angle of the body is furnished with a small cutaneous lobe, which sends out a low hem, the rudimentary mantle-margin(?), backwards. Behind the middle (c. 10 mm. from the front) of the body there projects a larger leaf-like lobe, which is finely granulate on its upper face, and shows a few minute branched veins on the under side. On the left side of the body these appendages are wanting.

Head strongly declining, produced at the sides into narrow triangular lobes, the upper margins of which start as low hems from the outside of the rhinophorial bases. Their under margins are coalesced with the foot. Close by this margin runs a swelling, which unites, under the mouth, with a similar one on the opposite side.

On the right side there appears the genital aperture with the glans penis, which is arched, flattened at the concave side, and unarmed. Farther back is situated the anus, and, close by it to the right, porus renalis.

Foot broad (5 mm.), rounded in front, with membrane-shaped side-margins, finely granulate on the upper side; the posterior end broadly rounded.

Buccal organ lengthened (3,5 mm. in length, 1,5 mm. in breadth, 2 mm. in height), strongly convex above, concave below. The lips very muscular and prominent, the labial disc dilated in breadth and armed with radiating strips.

Jaws lateral, 2,5 mm. in length, $1\frac{1}{3}$ mm. in height, with convex upper margin and concave under side, which forms a sharp angle with the anterior one in front. Mandibular process wanting.

Radula 1 · 1 · 1, with 41 rows; the lam. lat. very thin and light yellow, consisting of a rectangular base and a triangular spine, which is denticulated in the inner margin. The lam. med. are high (0,2 mm.), strong and of a dark-brownish colour with a broad median spine and below that a short blunt tubercle on each side. The basal plate is quadrangular with rounded corners and is concave in the front to make up for the tooth before it. Its under side has a transverse elevation.

The bad state of preservation the specimens were in did not permit of a very careful examination of the inner anatomy.

From the bulbus pharyngens emerges the slender oesophagus, in which opens immediately a pair of lengthened salivary glands. The oesophagus widens to the stomach, from the right side of which the intestine leads in a curve to the anus.

The liver (fig. 17) fills the dorsal side of the posterior part of the body and sends out along each side to the rhinophores an anterior diverticle, the right one being the larger of the two. It is divided up into a great number of small lobes, which do not enter into the papillæ. The primary and secondary parts of the liver have each a special ductus; the former open out into the posterior angle of the stomach at the left side of the body, the latter farther forward.

The papillæ (fig. 1 *p*) consist wholly of connective tissue (*c*) and do not contain any cnidocysts.

The heart lies in the anterior third of the back to the right of the stomach and a little to the right of the median line.

On the nervous system there was no mark of eyes to be seen.

The hermaphrodite gland occupies the lower part of the tail and consists of minute rounded lobes, in the periphery of which the eggs are produced, while the centre is filled with the spermatoblasts. The ductus hermaphrodisiacus starts from its under side, runs forward and forms an ampulla, consisting of numerous gyri. To the vagina there belongs only one receptaculum seminis.

This new and peculiar species shows the essential characters of *G. typica* M. Sars, which was described in detail by G. O. Sars in 1872. It differs from that species only in possessing cutaneous lobes on the right side, in having granulate rhinophores and denticulated laterals of the radula. On the other hand it differs considerably from the *G. typica*, described by Bergh in 1886, which is not identical with Sars' species, owing to its possessing the following characters: it has the side-lobes of the head rather small and not united to the foot; the anus is situated far behind the middle of the right side; the lips are not projecting; the jaws are furnished with a denticulated process, and the teeth of the radula are serrated (lam. med. with 9 denticles on each side). The liver, furthermore, is enclosed in the papillæ. These differences were observed by Bergh, but he supposes that Sars' examination may have been imperfect and that it may be possible to identify the species.

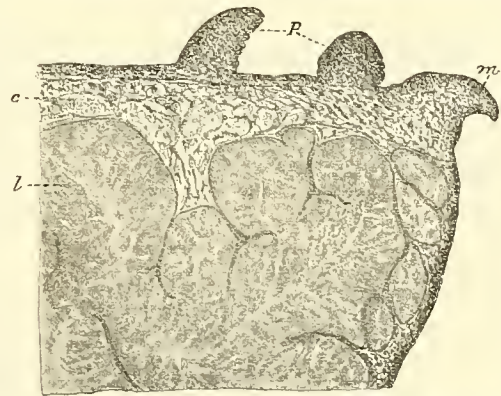


Fig. 1. Transversal section through a part of the body of *Gonialeolis lobata* (cf. Plate I fig. 10). *p* papillæ, *m* mantle-margin, *c* connective tissue, *l* liver. $\frac{3}{1}$.

It is consequently evident that Bergh's species is a different one from M. Sars', and the differences are so important, that the species must also be allotted to different genera. *Gonialeolis* in Bergh 1886 and 1899 shows such points of agreement with *Chlamyella* Bergh 1886, that the two genera have here been united under the last name.

Gonialeolis of M. Sars 1861, on the contrary, owing to the structure of the liver and the papillæ, must be placed in a separate family, *Gonialeolididæ*, belonging to the group *Tritonoidea*.

Archidoris nobilis LOVÉN in manuscript.

Pl. I figs. 14—18.

Body oblong-ovate, convex and rough with close-set small conical papillæ. The middle of the back furnished with 3 longitudinal series of larger tubercles, made up

of smaller ones. Gills 8, tripinnate, in a circle before the anus, retractile. Rhinophorial apertures slightly granulate on the margin. Oral tentacles tuberculiform, shortly acuminate, on the sides of the head. Foot rounded in front, with distinct transversal furrow but without median incision; the posterior end scarcely overtopping the mantle. Penis cylindrical, lengthened, unarmed. Colour rosy white, yellowish towards the margin; the gills lemon-coloured. L. 50 mm. Br. 25 mm.

Radula $\infty \cdot 0 \cdot \infty$; the teeth uniform, compressed from the sides, with produced arched spine, and inserted in the basal membrane with a thin edge. The smallest ones situated furthest in and furthest out in the rows. The longest about 0.3 mm. in length.

Issa villosa n. sp.

Pl. I fig. 21.

Body as in *I. lacera*, but the papillæ very numerous (in the dorsal margin about 40—50 on each side) and set in about 6 indistinct rows on the back; their length varying, the longest about 5 mm. Gills 5, bipinnate (in one specimen 7). The posterior end of the foot, which extends beyond the mantle, is rather long, about $\frac{1}{6}$ of the body. L. of the animal up to 48 mm. Colour yellowish white.

Radula similar to that of *I. lacera*, 5·2·1·2·5; but the base of the largest laterals is nearly quadrangular.

Doridunculus pentabranchus n. sp.

Pl. I figs. 22—23.

Body 13 mm. in length, depressed, of a pale yellowish colour (in alcohol). Mantle ovate, 7 mm. broad, extending far over the sides of the body, slightly bilobed behind and covered all over with acute-conical papillæ of varying size. The crests, 6 mm. in length, beginning a little before the rhinophorial apertures and running backwards, parallel to each other, to the sides of the gills. The under surface of the mantle furnished with radiating ribs. Gills 5, small, simply pinnate, in a semicircle before the anus; on the inner side of the hinder ones two minute papillæ (undeveloped gills?). The foot narrow (3 mm.), its posterior end extending far (4 mm.) beyond the mantle, covered with papillæ and furnished with a median crest which unites to the posterior pallial margin. The rhinophorial apertures wide, without sheaths; the clubs of the rhinophores laminated. The oral tentacles represented by broad side-lobes of the head. Porus genitalis lateral, just below the base of the mantle, about 4 mm. from its anterior margin. Colour yellowish brown.

Radula 5·1·1·0·1·1·5; the teeth with a quadrangular base and a projecting spine; the inner laterals with 2—3 denticles on each side of the median spine; the second laterals (from the rhachis) with a stronger spine and 2—3 denticles on its outer side; the rest of the laterals without denticles.

Idalia pulchella ALDER & HANCOCK var. *fusca* n. n.

Pl. II fig. 19.

Mantle broad as in the type, but the appendages 6 on each side, simple and of uniform length; gills 10; colour dark-brownish, lighter on the sides. L. 13 mm.

Lovén describes this form (1846) under the name of *I. cirrigera* Phil. Both the number of the gills and the breadth of the mantle as well as the form of the radula, which is reproduced by Lovén in 1847, show confirmity to *I. pulchella*. Alder & Hancock (1855) supposed it to be a variety of *I. aspersa*.

*Cumanotus*¹ *laticeps* n. sp.

Text-figs. 2—4.

Body of a whitish colour, elongated, rather broad, especially in front. Measurements of the largest specimen: length 13 mm.; breadth over the back (behind the rhinophores) 4 mm., breadth of the foot 6 mm., of the head 5 mm.; height 4 mm.; length of the rhinophores 4,5 mm.

The three remaining specimens varied in length from 9,5 to 12 mm.

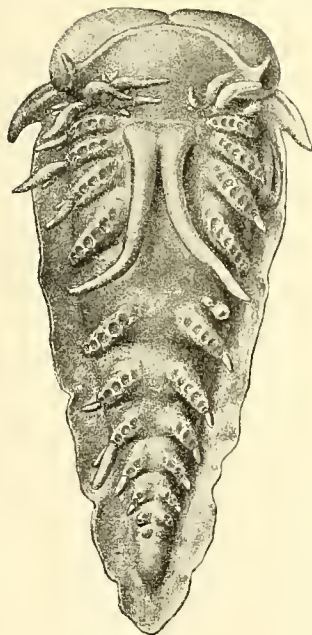


Fig. 2.

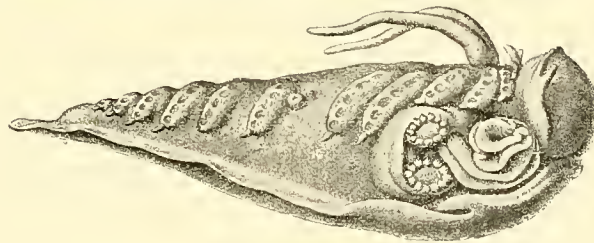


Fig. 3.



Fig. 4.

Fig. 2. *Cumanotus laticeps* n. sp. from the back. $\frac{6}{1}$.

Fig. 3. The same from the right; penis stretched out; female genital aperture furnished with a bursa copulatrix and a pair of circular aculeated cushions. $\frac{8}{1}$.

Fig. 4. Radula of the same; the laterals turned inwards and their dentition showing through from the under side.

¹ From $\kappa\acute{\omega}\mu\alpha$ = wave and $\nu\acute{\omega}\tau\omicron\nu$ = back.

Head with the sides considerably expanded and appearing as somewhat inflated. Oral tentacles very small, papilla-shaped, connected by a low transverse cutaneous fold, running in a curve across the head.

Rhinophores smooth, very long and slender, united at the base.

Papillæ set on 12—13 obliquely-transverse ridges, one row on each ridge, the foremost situated in front of the rhinophores, the largest containing about 8 or 9 papillæ. Between the 6th and 7th ridges there is a larger interspace for the latero-dorsal anus, which is situated close in front of the 7th ridge.

Penis furrow-shaped, of uniform breadth, unarmed.

The female genital aperture is dilated to a bursa copulatrix, the upper and lower margin of which is armed with a circular cushion, furnished on the periphery with 12 small hooks.

Bulbus pharyngeus short and broad, its inferior margin longer than the superior, both convex; the posterior part concave. The lips only a little projecting.

Mandibulæ with one row of bicuspidate or tricuspidate denticles on the anterior margin; the processes short, nearly smooth.

Radula 1·1·1 with about 17 rows; the sides of the median teeth and the inner margins of the lateral ones are armed with about 20 rather strong denticles. Colour of the teeth pale yellowish brown.

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Errata.

| Page 13, line 6, from foot of page, <i>for</i> expanza | <i>read</i> expansa. |
|--|---|
| » 26, » 4, » » » » » Alder & Hancock | » Cuvier. |
| » 27, » 7, » » » » » Hancock & Embleton | » Alder & Hancock. |
| » 29, » 22, » top » » » Bergh 1860 | » (Bergh 1860). |
| » 34, » 18, » foot » » » Alder & Hancock 1851 ^a | » (Alder & Hancock 1851 ^a). |

PLATE I.

Figs 1—23.

Plate I.

- Fig. 1. *Diaphana glacialis* n. sp., shell from the back. Mossel Bay. $\frac{6}{1}$.
- Fig. 2. The same, shell from the aperture. $\frac{6}{1}$.
- Fig. 3. The same, shell from the spire. $\frac{6}{1}$.
- Fig. 4. The same, part of the radula; the median plates pushed a little together and the lateral ones of the right side shifted outwards. Hackluyts Headland. $\frac{188}{1}$.
- Fig. 5. The same, three median plates after slight depression, showing the swellings of the margins. Cross Bay. $\frac{272}{1}$
- Figs. 6—9. *Philine scabra* Müller, shells, showing the gradual depressions of the outer lip and the transitions to var *Lovéni* (fig. 9).
 Fig. 6 from Torekov—Arilds läge, $\frac{1}{1}$; fig. 7 from Landskrona—Helsingborg, $\frac{1}{1}$; fig. 8 from Gäsöfjord, Gullmarn, $\frac{1}{1}$; fig. 9 from Lindholmen, Gullmarn, $\frac{1}{1}$.
- Fig. 10. *Gonizolis lobata* n. sp. from the upper side, with a few papillæ and marks of others which have fallen off. $\frac{1}{1}$. The arrow shows the place for the transversal section in text-fig. 1.
- Fig. 11. The same from the right side: at the anterior end the mouth with lips projecting; above the side-lobes of the head the genital orifice with the penis stretched out; farther back the anus and the porus renalis on the right side of it. $\frac{1}{1}$.
- Fig. 12. The same, part of the radula. $\frac{196}{1}$.
- Fig. 13. The same, two median teeth of the radula seen from the side. $\frac{196}{1}$.
- Fig. 14. *Archidoris nobilis* Lovén from above. Skår, Gullmarn. $\frac{3}{2}$.
- Fig. 15. The same from the under side: the anterior margin of the foot turned down in order to show the conic tentacles; to the left the stretched penis and behind it the female genital orifice. $\frac{3}{2}$.
- Fig. 16. The same, a row of teeth from one side of the radula and 6 teeth from the opposite side. $\frac{44}{1}$.
- Fig. 17. The same, a single tooth from the radula. $\frac{88}{1}$.
- Fig. 18. The same, transversal section of two teeth and the basal membrane, along the line AB in fig. 17. $\frac{88}{1}$.
- Fig. 19. *Platydorís planata* Alder & Hancock, from above. Kristineberg. $\frac{3}{2}$.
- Fig. 20. The same, the anterior half from the under side: to the left the female genital aperture with a cutaneous process containing a few eggs. $\frac{3}{2}$.
- Fig. 21. *Issa villosa* n. sp. Bel Sound, Spetsbergen. $\frac{7}{1}$.
- Fig. 22. *Doridunculus pentabanchus* n. sp. Skagerrack $\frac{1}{1}$.
- Fig. 23. The same, part of the radula. $\frac{272}{1}$.



G. Liljevall del.

Ljustreck J. Cederquist Sthlm.

PLATE II.

Figs. 1—27.

Plate II.

The numerals in parentheses refer to Ind. Moll Scand. (Lovén 1846).

- Fig. 1. *Acera bullata* Müller, animal with shell.
 Fig. 2. The same, shell.
 Fig. 3. The same, egg-cocoon.
 Fig. 4. *Aplysia rosea* Rathke (= *punctata* Cuvier).
 Fig. 5. The same, a younger specimen.
 Fig. 6. The same, shell.
 Fig. 7. The same, spawn on *Furecellaria*.
 Fig. 8 (13 a). *Archidoris tuberculata* Cuvier.
 Fig. 9 (30). *Aegires punctilucens* Lovén from above.
 Fig. 10. The same from the left.
 Fig. 11. *Dendronotus* sp. aberrant form (monstrosity?).
 Fig. 12 (16). *Acanthodoris pilosa* var. *fusca* Lovén.
 Fig. 13 (16 a). *Acanthodoris pilosa* Müller, the type.
 Fig. 14 (16 b). The same.
 Fig. 15. The same.
 Fig. 16 (26). *Palio Lessoni* d'Orbigny (= *modesta* Lovén).
 Fig. 17 (44). *Galvina tricolor* Forbes.
 Fig. 18 (31). *Tritonia Hombergi* Cuvier.
 Fig. 19 (21). *Idalia pulchella* var. *fusca* (= *I. cirrigera* Phil. of Lovén).
 Fig. 20 (48 a). *Cuthona nana* (under *Eolis bellula* in Lovén).
 Fig. 21 (52). *Pleurophyllidia Lovéni* Bergh (= *Diphyllidia lineata* Otto of Lovén).
 Fig. 22. The same from the right.
 Fig. 23 (34). *Doto coronata* Gmelin.
 Fig. 24. Papilla of the same.
 Fig. 25 (49). *Alderia modesta* Lovén.
 Fig. 26 (50). *Elysia viridis* Montagu (= *Placobranchus* v. Huss. Quoy & Gaim of Lovén).
 Fig. 27. The same from the left.

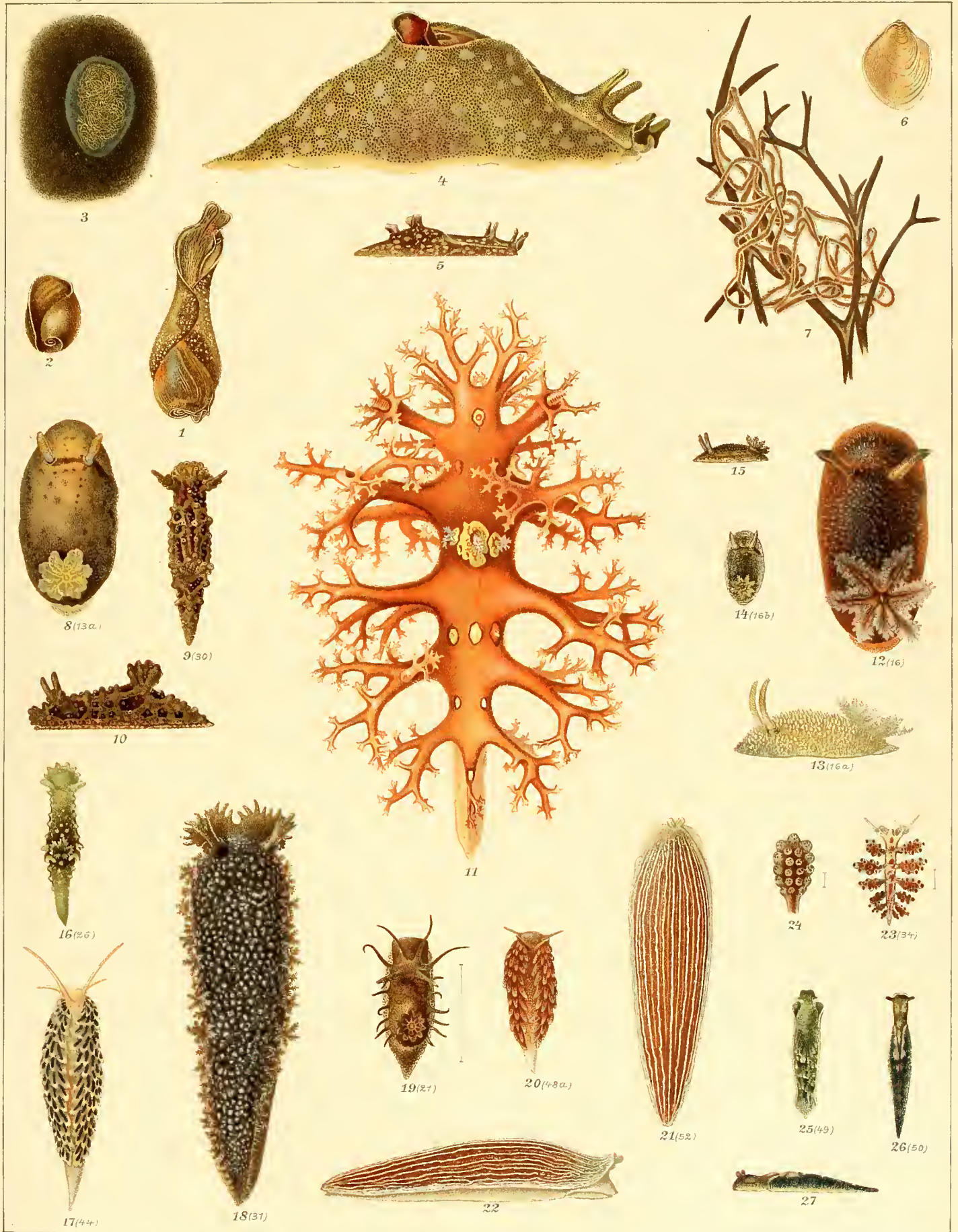




PLATE III.

Figs. 1-34.

Plate III.

The numerals in parentheses refer to Ind. Moll. Scand. (Lovén 1846).

- Fig. 1. *Philine aperta* Linné.
 Fig. 2. *Philine scabra* Müller.
 Fig. 3. *Philine pruinosa* Clark.
 Fig. 4 (32 a). *Tritonia Hombergi* Cuvier.
 Fig. 5 (32 b). *Tritonia plebeia* Johnston.
 Fig. 6 (13). *Archidoris tuberculata* Cuvier.
 Fig. 7 (14). *Cadlina obvelata* Müller.
 Fig. 8. The same from the under side.
 Fig. 9. The same from the left.
 Fig. 10 (23). *Triopa clavigera* Müller.
 Fig. 11 (25). *Polycera quadrilineata* Müller (= *cornuta* Abildgaard).
 Fig. 12. The same from the left.
 Fig. 13 (25). *Polycera quadrilineata* Müller (= var. a in Jeffrey's 1869).
 Fig. 14. The same from the left.
 Fig. 15 (20). *Goniodoris nodosa* Montagu.
 Fig. 16 (22). *Ancula cristata* Alder.
 Fig. 17 (22 a). The same.
 Fig. 18 (33). *Dendronotus frondosus* Ascanius.
 Fig. 19 (43). *Cratena angulata* Alder & Hancock (= *Aeolis obtusalis* Alder & Hancock of Lovén).
 Fig. 20 (48 d). *Cratena viridis* Forbes (under *Aeolis bellula* in Lovén).
 Fig. 21 (39). *Galvina exigua* Alder & Hancock (= *Tergipes lacinulatus* Gmelin of Lovén).
 Fig. 22 (48). *Cratena concinna* Alder & Hancock (under *Aeolis bellula* in Lovén).
 Fig. 23 (40). *Capellinia? fustifera* Lovén (*Tergipes*).
 Fig. 24 (46). *Favorinus albus* Alder & Hancock.
 Fig. 25. The same from the right.
 Fig. 26 (47). *Coryphella lineata* Lovén.
 Fig. 27 (48 c). *Facelina Drummondi* Thompson (under *Aeolis bellula* in Lovén).
 Fig. 28 (38). *Hermæa dendritica* Alder & Hancock (= *venosa* Lovén).
 Fig. 29 (37). *Hermæa bifida* Montagu.
 Fig. 30 (35). *Hero formosa* Lovén.
 Fig. 31 (35 a). The same.
 Fig. 32 (35 b). The same.
 Fig. 33 (34 b). *Doto fragilis* Forbes.
 Fig. 34 (34 a). The same.

Tryckt den 1 februari 1907.

